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# PUBLIC WORKS CENTER GUAM FLEET MOORINGS UNDERWATER INSPECTION REPORT

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# SEPTEMBER 1983

OCEAN ENGINEERING AND CONSTRUCTION PROJECT OFFICE CHESAPEAKE DIVISION NAVAL FACILITIES ENGINEERING COMMAND WASHINGTON, D.C. 20374

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Of the 22 moorings inspected, 19 were found to be in satisfactory condition, and 3 were found to be in fair condition with 1 of these recommended for overhaul. Specific comments concerning each of these moorings and recommendations for future actions are included in this report.

#### **Abstract**

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This report contains results of the inspection of 22 fleet moorings operated and maintained by the Public Works Center, Guam. A CHESNAVFACENGCOM-assigned Engineer-in-Charge and divers from Underwater Construction Team Two conducted the inspection from 6-14 June 1983.

→ Of the 22 moorings inspected, 19 were found to be in satisfactory condition, and 3 were found to be in fair condition with 1 of these recommended for overhaul. Specific comments concerning each of these moorings and recommendations for future actions are included within this report.

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#### PWC GUAM FLEET MOORINGS INSPECTION REPORT

#### 1.0 INTRODUCTION

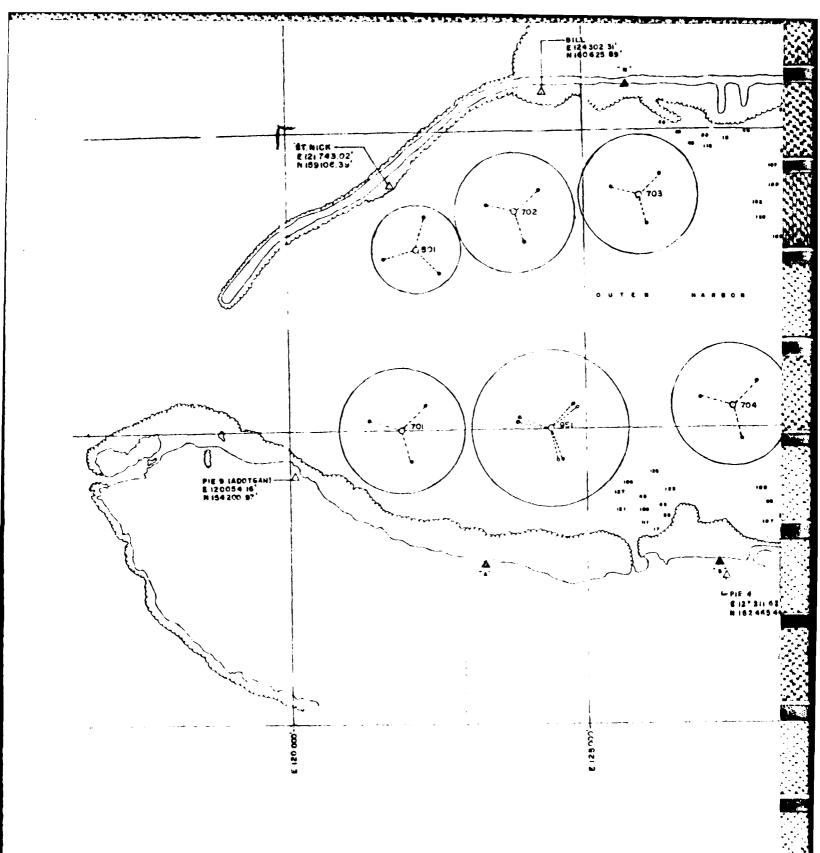
- Background. Under the COMNAVFACENGCOM Fleet Mooring Maintenance (FMM) Program, CHESNAVFACENGCOM has been assigned the responsibility to plan and conduct periodic diver inspections of all fleet moorings worldwide. In carrying out this responsibility, CHESNAVFACENGCOM designated an Engineer-in-Charge (EIC) to provide inspection planning and onsite technical direction for the underwater inspection of fleet moorings located in Apra Harbor near the Public Works Center Guam. The actual underwater portion of the inspection was performed by divers of Underwater Construction Team Two (UCT TWO). The inspection was conducted 6-14 June 1983.
- General Mooring History. PWC Guam currently operates and maintains 22 fleet moorings. They consist of one AA-, one CC-, one A-, thirteen B-, five D-, and one E-class moorings. Figure I shows the overall geographic positions of these moorings located in Apra Harbor, Guam, while Figures 2 and 3 are enlargements of portions of Apra Harbor and show the positions of the fleet moorings located in the outer and inner harbors, respectively.

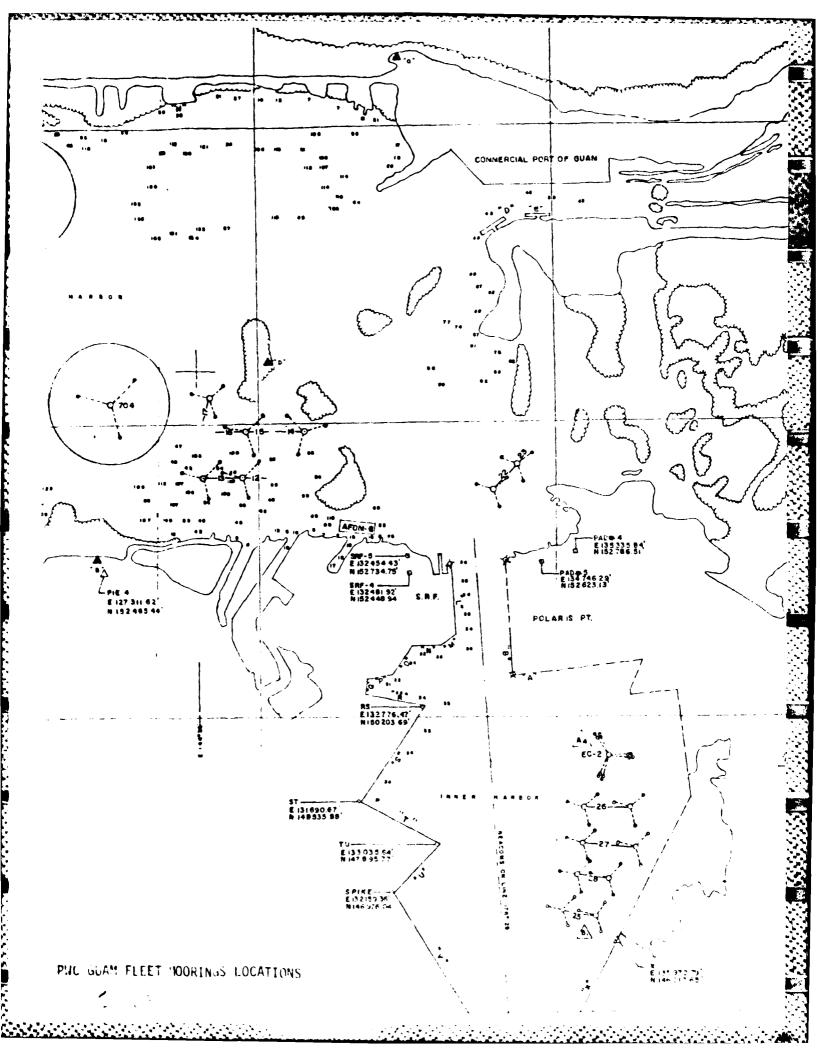
The latest maintenance data summary concerning these moorings was prepared by PWC Guam in April 1983. Table I is a copy of this summary.

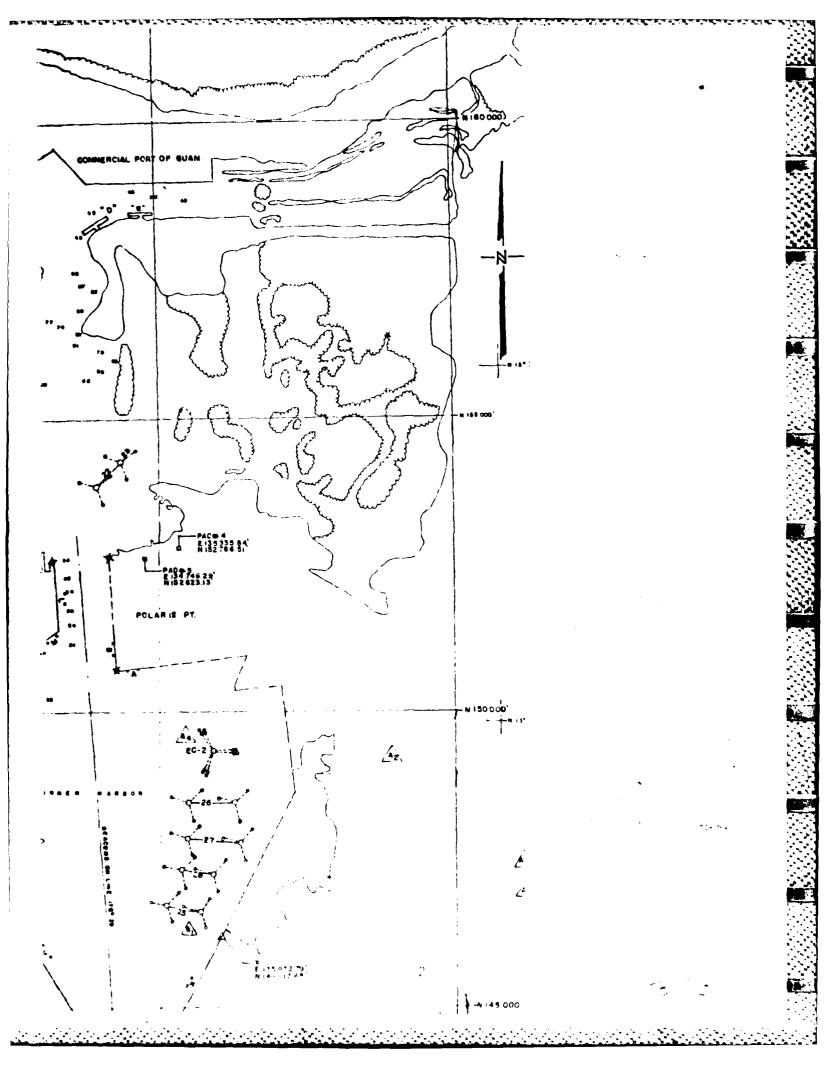
#### 2.0 INSPECTION PROCEDURES

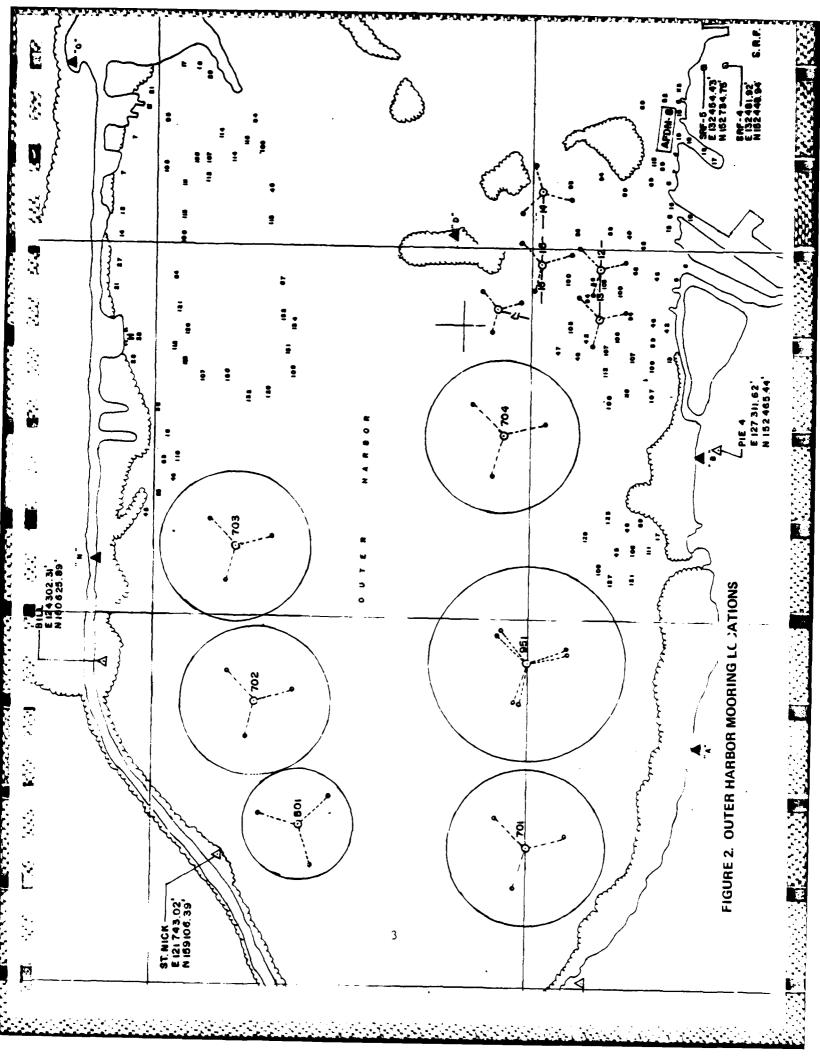
Inspection Objectives. The purpose of the mooring inspections was to determine the general physical condition of the buoys and chain assemblies and, when possible, to verify or update existing as-built and maintenance records. Divers inspected only a portion of the submerged buoy hull and chain assemblies in order to compile a general description of the mooring's condition. The existence of fairly consistent measurements during this inspection provides a good indication of the mooring's overall condition. It should be kept in mind that periodic underwater inspections are intended as an expedient and relatively inexpensive supplement to accurate maintenance records. As such, they cannot fully substitute for a complete inspection involving recovery of the mooring and the measurement and evaluation of each component.

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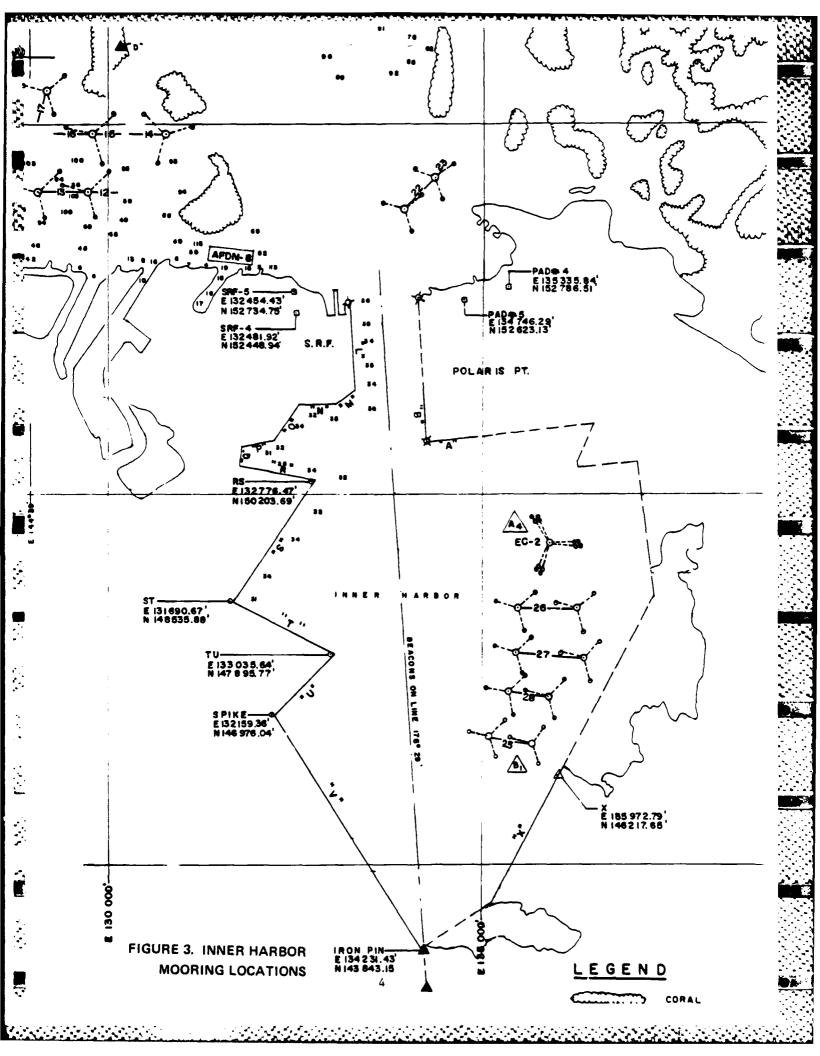


TABLE 1
PWC GUAM FLEET MOORINGS

Mooring Number	Mooring Class	Water Depth (Ft)	Date Installed	Date Last Overhaul	Reported Condition	Date Next Overhaul	Type Ships Moored
951	AAT	130	12/59	6/82	FAIR	6/88	AS-19
701	BR	125	4/59	1/81	GOOD	1/86	AFS-7
702	AR	150	6/57	2/82	GOOD	2/85	AFDL-21
703	BR	140	6/57	2/82	GOOD	2/87	
704	ER	125	10/69	1973	POOR	4/84	
501	BR	160	7/57	3/82	GOOD	3/87	~
25W	BR	36	4/53	2/81	GOOD	2/86	22 Cape
							Class
25E	BR	36	4/53	2/81	GOOD	2/86	YTB
26E	BR	32	9/53	3/82	GOOD	3/87	YTB
26W	BR	32	9/53	3/82	GOOD	3/87	SWOB
27E	BR	37	9/53	4/82	GOOD	4/87	~
27W	BR	32	9/53	4/82	GOOD	4/87	30 Balsam
							Class
28E	BR	36	9/53	9/82	GOOD	9/87	YFN, YC
28W	BR	36	9/53	9/82	GOOD	9/87	YPD
22	BR	70	9/53	8/82	GOOD	8/87	YON
22/23	BR	58	9/53	8/82	GOOD	8/87	-
12/13	DR	105	-	7/82	GOOD	7/87	-
13	DR	97	-	7/82	GOOD	7/87	-
14	DR	97	10/53	6/82	GOOD	6/87	YC
15/16	DR	97	10/53	9/82	GOOD	9/87	YTB
17	DR	69	9/53	5/82	GOOD	5/87	YON

NOTE: Mooring historical data provided by PWC GUAM, April 1983.

Chain wire diameter measurements are used to evaluate the condition of a mooring. After cleaning to bare metal, a selective sampling of the wire diameter of chain links and connecting hardware was taken in order to determine the amount of deterioration due to corrosion and wear. "Single link" measurements were taken where chain was slack to detect corrosion loss. "Double link" measurements were taken where two links connected under tension to detect the combined effects of corrosion and wear. Chain links and other components which measured 90 percent or greater of original wire diameter are considered to be in "good" condition; measurement between 80 percent and 90 percent of original diameter is considered "fair" condition and is cause for the mooring to be downgraded in classification; any measurement less than 80 percent is considered "poor" and is cause for the mooring to be declared unsatisfactory for fleet use.

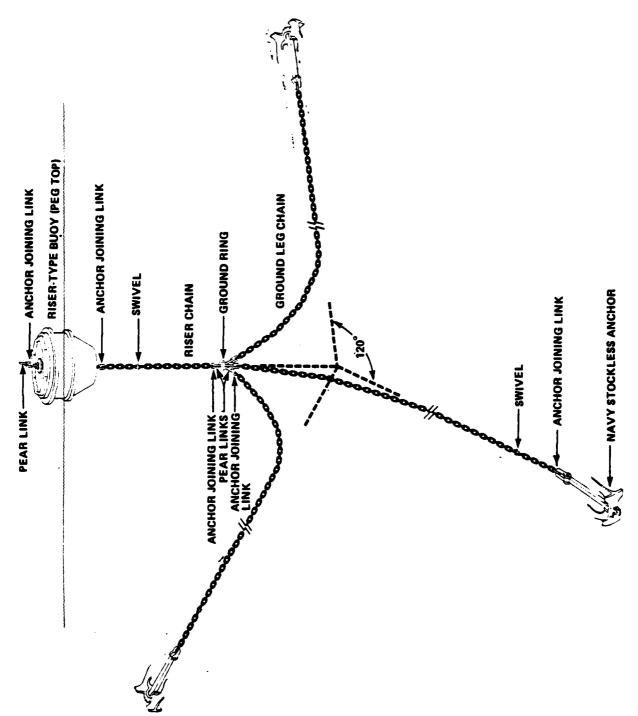
Standard underwater inspection procedures do not call for the inspection of any part of the mooring which has been buried or which is below a water depth of 130 feet—if scuba gear is used. Ground legs and risers were observed only to the point at which they became buried; no attempt was made to locate and inspect anchors or other mooring materials which were not readily visible. For clarification, schematic drawings of typical riser and telephone type moorings are shown in Figures 4 and 5 respectively.

## 2.2 Buoy.

2.2.1 <u>Buoy Topside.</u> Each buoy was inspected to determine its general condition. The buoy markings were checked for conformance to those noted in applicable charts. Physical damage such as holes, dents, or listing was described. The fiberglass was inspected for cracks, wear, peeling, or rust-bleeding. Hatches, openings, and penetrations were examined and worn material and rust were reported.

The buoy fenders and chafing rails were checked for integrity and secure connection to the buoy. Buoy top jewelry was measured with calipers to find the overall outside dimensions and areas of most severe reduction in wire size.

- 2.2.2 <u>Buoy Lower Portion</u> Divers inspected the buoy below the waterline. The thickness of marine growth was recorded, 1-foot-square areas were selected and cleared of growth without damaging the fiberglass, and the condition of the fiberglass was noted.
- 2.3 Riser. To determine chain wear, each riser chain was inspected by taking three consecutive double link measurements, using precut gauges and/or calipers, at both ends and at the center of the riser. To determine original chain size, divers took single link caliper measurements of the wire diameter. Divers also documented the type of hardware connecting the riser chain to the sinker.
- 2.4 <u>Ground Ring.</u> When visible, the ground ring was examined for general and localized wear. Caliper measurements were made of the wire size in the region of most severe wear and across the inner diameter.
- 2.5 <u>Ground Legs.</u> To determine chain wear, three consecutive double link measurements were made at both ends and at the center of each leg until the chain was



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FIGURE 4. TYPICAL RISER-TYPE MOORING

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FIGURE 5. TYPICAL TELEPHONE-TYPE MOORING

buried in the seafloor. Where a segment of chain was resting on the bottom and was not in tension, single link measurements were taken instead of double link measurements. To determine original chain size, divers took single link caliper measurements of its wire diameter.

**2.6** Anchors. No anchors were sighted during the course of the inspection.

#### 3.0 INSPECTION SUMMARY

An in-depth discussion of the inspection results is presented in Annex A. Annex B contains photographs, and Annex C contains a copy of the preliminary report of the results of the inspection.

The data gathered during the inspection indicates the following:

- o Of the 22 moorings inspected, 20 are in satisfactory condition for continued use at their current mooring classification level.

  Although usable, the other two require some maintenance rework.

  Table I presents the status of the PWC Guam fleet moorings.
- o The riser chain of Mooring 704 is badly pitted and its buoy is in need of repairs.
- o Although its components and assemblies are in good condition, the riser chain of Mooring 22 is entwined with about 40 feet of extraneous 2-inch wire rope.
- o The material condition of Mooring 12/13 is good, but the orientation of its ground legs is questionable. Magnetic bearings of these three legs from the ground ring were found to be 029, 031, and 215 degrees.
- o The top jewelry of Mooring 17 includes a shackle with a measured wire diameter of 1 1/2 inches. This is undersized for a class D mooring, which requires the wire size of all components to be a minimum of 2 inches.
- o Buoy 28E is badly rusted, has a bent and rusted chafing rail, and has sustained some collision damage.

TABLE I

# INSPECTION SUMMARY

MOORING NUMBER	MOORING CLASS	CON	IDITION FAIR	POOR	REMARKS
EC-2	CCR (MOD)	_			
951	AAT	<b>1</b>			
701	BR	-			Oversize riser chain (2 3/4-inch)
704	ER		1		Riser badly pitted. Mooring needs to
			ļ		be overhauled.
702	AR	<b>/</b>			
703	BR	<b>~</b>			Riser only inspected to a depth of 100
					feet
22	BR				About 40 feet of 2-inch wire rope is
	'				entwined with riser chain
22/23	BR	~			
501	BR	<b>1</b>			Riser only inspected to a depth of 100
					feet
25E	BR	<b>1</b>			
25W	BR				
26E	BR				
26W	BR				
27E	BR	<b></b>	4.		Buoy has a 2-foot-wide, 2-inch-deep
					dent in hull
27W	BR	<b>1</b>			
12/13	DR	-			Orientation of the ground legs is questionable
13	DR	-			
14	DR				
15/16	DR	-			
17	DR				Divers only inspected mooring to the
					ground ring. Undersized shackle used
					in top hardware.
28E	BR				Buoy needs refurbishment
28W	BR	1			
	TOTALS	20	2	0	
j		١.	}	1	

- o The ground legs of half of the mooring systems (11 of 22) were completely buried in the bottom and inaccessibile for inspection.
- o None of the buoys or risers have cathodic protection systems. Although the ground legs of Mooring 27W are purported to have a cathodic protection system, the legs are buried and the presence of such a system could not be verified.

#### 4.0 COMMENTS/RECOMMENDATIONS

As a result of an analysis of the data collected during the inspection, the following comments/recommendations are pertinent:

- o In view of the deep pitting of its riser and the fact that Mooring 704 was previously downgraded from a class A to a class E mooring, recommend that this mooring be overhauled at the earliest opportunity.
- o The wire rope entwined in the riser of Mooring 22 should be removed.
- o The orientation of the legs of Mooring 12/13 should be checked during the next scheduled overhaul, and if necessary, the ground legs and anchors reinstalled in their designed locations.
- o The undersized shackle in the top jewelry of Buoy 17 should be removed at the earliest possible time.
- o Due to the generally poor condition of its exterior, Buoy 28E should be refurbished.

## ANNEX A

## MOORING INSPECTION RESULTS

This Annex contains for each mooring:

- o A summation of the inspection data obtained by the CHESNAVFACENGCOM EIC and UCT TWO divers, and
- o a diver data reporting form.

# INSPECTION RESULTS MOORING EC-2

#### Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 40-inch freeboard. The bottom is covered with about 1 inch of marine growth and the top deck plate is rusted; otherwise the buoy is in good condition.

#### Riser

The riser is 3 1/2-inch chain. All double link measurements were greater than 90 percent of the chain's original wire diameter. There is moderate to heavy marine growth on the riser. A few feet of riser rests on the bottom before the chain enters the bottom.

#### **Ground Legs/Anchors**

Not visible for inspection.

#### Recommendation

This mooring is in satisfactory condition for continued use as a modified class CC mooring.

Ni = not inspected, inaccessible GROWTH ON BOTTON RUSTED, BUDY IN DRUH BUOY WITH HAWSE PIPE. 34 MOD TO HEAVY GROWTH, SWIVEL IN 38' SOHE CHAIN ON BOTTOH FRIOR TO GOOD CONDITION. D.L. CALIPER RISER ENTERING HUD COMMENT MATERIALISM SECTION SIZE/TYPE: 25K STOCKLED BUOY TYPE: 12 x 9 6 " GOOD (YOUDITION). O = depth BUDY TUP PLATE FREEBOARD. ROCK Visibility 5'-10' 0 8 DOUBLE LINK % CLAY CORAL 90 7 CONDITION 8 SINGLE LINK % **8**0 ₩QD **W** 3/2" NEW MOLLOBERTION Ē SAND F" SHACKLE WILDES NULES BOLLOM LNIERS BOLLOM NIERS BOLLOM NEAR GRD RG NEAR BUOY BINDY HARIDWARE OPPLISEND UPPLE IL LND UPPLE LND INPER END GHOUND HING COMPONENTS MIDDI E MIDDLE MIDDI E MIDDLE MIDDLE SHACKLE PIN PEAR LINK BOLLOM LYPE GHOUND LEG NO. A GHOUND LEG NO. B GROOMD 116 NO D CHOUND FFG NO C

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# MOORING 951

#### Buoy

This is a 17-foot-diameter telephone-type buoy. The buoy is fiberglass coated and has a 17-inch freeboard. Due to this relatively low freeboard, the fender is partially submerged. The buoy bottom is covered with only a light coating of marine growth and is in good condition.

## **Ground Legs**

The mooring contains three pairs of ground legs (six legs). Each pair of legs is connected to the buoy by a spider plate and a single short length of chain to one of three buoy padeyes. Each leg consists of 2 3/4-inch chain and all single and double link measurements were greater than 90 percent of the original chain diameter. The three spider plates are in good condition. At 100 feet, the lowest depth to which the divers descended, leg E was observed to be about 10 feet above leg F.

#### **Anchors**

Not visible for inspection.

#### Recommendation

This mooring is in satisfactory condition for continued use as a class AA mooring.

Ni = not inspected, inaccessible 17" FREEBARD. FENDER FAINAULY SPIDER PLATE SPIDER MATE SUBMEEGE D. LIGHT GROWTH COMMENT CLASS AAT LUCATION: PUX GUAHLAT: 13-36-51 N LONG: 144-38-137 E O = depth BEARIUG 050° H BEARING 1630 H BEARING 160° M BEARING 055 H ANCHOR SIZE/IYPE: 25 K STOCKLES BUOY IYPE: 17× 10' TELEPHOLE ON BOTTOM Visibility 50 101/ 196 ,01% ,01/ ,01/ 48 96 48 84 3 26 48 ٥ ROCK 8 DOUBLE LINK % ġ CLAY CORAL ġ 7 7 CONDITION 7 ŝ SINGLE LINK % 9 35" 434 90 7 234 :: 3%" NA NEW Ē □ SAND DETACHABLE LIDK ENTERS BOTTOM INITHS BOLTOM INITIES BOILON MOTTORSHOLLOM 130 NEAR GRO RG NEAR BUOY BUOY HARDWARE DEPTH LND UPPER END UPPLEN L'ND DPPER END GROUND RING COMPONENTS MIDDLE PEAR LINK MIDDI & MIDDLE MIDDLE MIDDI & MONTHING NO. WATER DEPTH. HOLLOM LYPE GROUND LEG NO. A GROUND LEG NO C GHOUND LEG NO B RISLE

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MOUNTING NO.	951	_CLASS.	Au	47	LOCAT	ON PR	LOCATION: PLUE GUAPPLATE	9Mrs	<u> </u>		(C	(CODTINUED)
WATERDEPHE			ANCHOR SIZE/LYPE	SIZE/IY	'PE:			_ BUOY TYPE:	TYPE:_			
BOLLOM LYPE.	TE. SAND	9	OUM		CLAY		CORAL		Пноск	Visibility	Mepth = O	NI = not inspected inaccessible
						CONDITION	TION					
COM	COMPONENTS	ž	NEW	SIR	SINGLE LINK %	ZK %	DOUE	DOUBLE LINK %	* *	0	COMMENT	ENT
				106	<b>8</b> 0	-98	<b>2</b> 6	108	-08			
KOUR	BIOY HARDWARE											
									-			
	NEAR BUOY										4	
HIST II	MIDDLE											
	NEAR GRD RG											
CHC	GHOMM) HING											
	CHEPLH F NO	27/4"		7		-	7			10/	BEARING 300°	SPIDER PLATE
116 116 116 116 116 116 116 116 116 116	MIDDLE	_		7			7			,8#		1EG E 15 10 ARDUM
<b>)</b>	LNIERS BOLFOM			7			7			7%		
ONGORD	(INT H END	22/4"		7			7		,	-0/2	BEARING 3150	
<b>لیا</b> څوو	MIDDI E	-		7			7			18		
-	LN11 RS BOLLOM	\ -		7			7			76		
(1180) (181)	OPPER END											
0 C NO C	MIDD) I											
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(Hai wate)	UPPLR END											
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	MOTTOR BOTTOM											

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# INSPECTION RESULTS MOORING 701

#### Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a hawsepipe. The buoy is painted with standard colors and has a 45-inch freeboard. The bottom has a one-half inch coating of marine growth. There is no rusting, and the buoy appears to be in good condition.

#### Riser

The riser consists of 2 3/4-inch chain which is one-half inch larger than required for a class B mooring. All single and double link measurements were greater than 90 percent of the chain's original wire diameter. The chain was inspected and measured to a water depth of 120 feet.

## **Ground Legs/Anchors**

Not visible for inspection.

#### Recommendation

This mooring is in satisfactory condition for continued use as a class B mooring.

COMPUNENTS   NI   NEW SINGLELINK & DOUBLELINK & SOUP KOST    PERFERINGE LINK   3
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# INSPECTION RESULTS MOORING 704

#### **Buoy**

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 40-inch freeboard. The chafing rail is bent and badly rusted in some areas. The bottom of the buoy is covered with 2 to 3 inches of marine growth. The fender is in good condition.

#### Riser

The riser consists of 2 3/4-inch chain, which is much larger than the 1 3/4-inch chain required for a class E mooring. Although single and double link measurements indicated that the chain links were about 90 percent of their original size, there were many areas of severe pitting, with some as large as 2 inches wide and an eighth of an inch deep. This pitting reduced the available wire diameter of the chain to between 80 and 90 percent of its original diameter.

#### **Ground Legs/Anchors**

Not visible for inspection.

#### Recommendation

Due to anchor system problems, this mooring was downgraded from a class A to a class E mooring by PWC Guam personnel. In addition, a measurement between 80 and 90 percent of any mooring component is normally cause for a mooring to be downgraded to the next lower class of mooring. However, in this case, the larger-than-required original wire diameter of the riser chain allows this mooring to be still capable of withstanding class E mooring loads. However, it recommended that this mooring not be subjected to loads in excess of E class load limits as defined in NAVFACENGCOM Design Manual 26. It is further recomended that this mooring be overhauled and its riser chain replaced at the earliest practical time.

MOOBING NO.	-	704	CLASS	ر ا	ER	.10CAT	ION: PM	U EU	AT LA	11:13:24	-545	LOCATION: PUN EUAH LAT: 13-26-54.5 "DLONG: 144-38"44.8 E
WATERDEPHE	PHE	125'		ANCHOR	SIZE/T)	(PE: 9K	57.	972	- 800	/ TYPE:	DXC	ANCHOR SIZE/IYPE: 9K STATO BUOY IYPE: 13 X 6 DRUM WHAUKEN AE
BOLLOM LYPE.	YPE.	SAND	<u> </u>	MUD X		] сі.ау		CORAL		Пвоск		Visibility $\frac{2O^l}{O}$ D = depth NI = not inspected, maccessible
							CONDITION	TION				
3	COMPONENTS	s	Z	NEW	S	SINGLE LINK %	% X X	DOO	DOUBLE LINK %	* ×	a	COMMENT
					904	<b>90</b>	-98	÷06	80t	-08		
B110	BLIOY HARDWARE	ARE										40" FREEBOARD. 2-3" growth
PEA	PEAR LIUK	K		2%"								on bottom, FENDER OK, CHAFING
FSH	F'SHACKLE WILLES	Whis		3,6								RAIL BENT AND RUSTED BADLY
												W SOME AREAS
	NLAR BUOY	100Y		234"		7			7		9	CHAIL MEASURED AT 2 12:
HISTH	MIDDLE			_		7			7		45'	_
;	NEAR GRO RG	RD RG		<b>→</b>		7			7		95,	1
	GHOUND RING	91	_									
-10	CHPLE END	ON:	_									
	MIDDH E	111										
<b>S</b>	_	ENTERS BOTTOM										
1944	CHPER LND	S										
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# INSPECTION RESULTS MOORING 702

#### Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 36-inch freeboard. The top deck plate is heavily rusted, and the bottom is covered with a thick marine growth. The fender is in good condition.

#### Riser

The riser consists of 2 3/4-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size.

## Ground Legs/Anchors

Not visible for inspection.

#### Recommendation

This mooring is in satisfactory condition for continued use as a class A mooring.

LOCATION PUC GUAM LAT: 13-27-27, 1/ LONG: 144-35-68,1 E	ANCHOR SIZE/TYPE: 9K/STATOBUOY TYPE: 12×6 DRUM WIMMUSEPIPE	Visibility 56, D = depth NI = not inspected, inaccessible		COMMENT		FREE BOARD 36," FEUDER GUD.	HEAVY RUST ON TO DEAK PLATING	BUOY BOTTOM COVERED WITH HEAVY	MARINE GROWTH.	S.L 24" D.L. 514"	" 1/2 E 1/8	'7.S	DETACHABLI	DID WAT SO BELOW 100 DEPTH.											
27.27.1	12×6			٥						٠,	45'	95							_						
AT:/3-	Y TYPE	ROCK		Z X X	-08										_		_								
HH	BUO		<u> </u> 	DOUBLE LINK %	<b>80</b>								-									ļ			
30 GU	970	CORAL	CONDITION	100	106					7	7	7													
HON: PK	1/51		COND	X X	-08																				
LOCAT	PE: <b>2</b> %	CLAY		SINGLE LINK %	108			-																	
R	SIZE/TY			SIV	÷06					7	7	7													
A	NCHOR	MUD MUD		NEW			334"	3 % !!		23.4	_	->													
CLASS	< 			ž																					>
702	150'	Pt. SAND	1	COMPONENTS		BUOY HARDWARE	SULL WINGS	FEAR LINK		NEAR BUOY	MIDDLE	NE AH GRU RG	GHOUND RING	UPPER END	MIDDLE	FNIERS BOLLOM	OPPEN LND	MIDDI E	FNII RS BOLLOM	UPPLREND	MHOOT E	FOITES BOLLOW	OPPER END	MIDDI E	MOTIONSHINE
MOORING NO	WALLEONPHE	BOLLOM LYPE:		COM		KOM	F SHAL	FEAR 1			RISER		TOHES		LEG LEG		CINI CATE	1 EG	:		911 911			6800ND	

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DATE 14 JUNE 83 ENGINETH IN CHARGE A.J. DODSON DIVERS: HARDING/TEUCANDOW CHESNAVFACENGCOM REPORT FPR-1-83(32), "PWC GUAM FLEET MOORING UNDERWATER INSPECTION REPORT,"

# INSPECTION RESULTS MOORING 703

## Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with hawsepipe. The buoy is painted with standard colors and has a 34-inch freeboard. The lower hull is covered with about 2 1/2 inches of soft marine growth. Overall, the buoy is in good condition.

#### Riser

The riser consists of 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A swivel was observed at 15 feet.

## **Ground Legs/Anchors**

Not visible for inspection.

#### Recommendation

This mooring is in satisfactory condition for continued use as a class B mooring.

COMPTHEN	WALLEDEPHE		140,		ANCHOR SIZE/I YPE: 9K	SIZE/T)	rPE: 94	STAND	2	BUOY	TYPE:	2 × C	E. 9K STAND BUOY TYPE: 12 K C" DRUM WHANSEPIPE
COMPTONE IN NEW SINGLE LINK & DOUBLE LINK &	1 WO 1 CO		SAN		MUD X		] сгау		CORAL		ROCK	Visibil	
COMPTONE   NI NEW SINGLELINK DOUBLELINK   DOUBLE   D								COND	ITION				
HISTH   HIDDLE   HI	<u> </u>	MPONENTS		ž	NEW	SI	NGI E LI	NK %	nod	BLE LIN	* *	d	COMMENT
### BUTOY HARIWANE    DET PCHABLE LUCK						•06	801	-90-	+06	80 i	-90-		
PET REWARKEE LUNK 3"	OUB	Y HARIDWAR	E										FREEBOARD 34", 21/2"GROWTH
F SHACKLE W/LUS   3"   AT 15."	DET AC.	HABLE L	ĺζ										ON BITTOM, FENDER OK. SWIVEL
1	F SHAL	KLE W/L	165		3.								
HISTH   MILDLE   21/2	PEAK	LIEK			33/								
HISTII   MIDITE   1/2													
HISTH   MIDDLE		NEAR BIN	<u>&gt;</u>		2//2				/			7	) LH
NEAR GRD RG	HISTH	MIDDLE				7			7			45'	i
GROUND RING GROUND GROU		NEAR GRU	HG.		<b>→</b>	7			7			95,	
MIDDLE LIPPER END		DEINO RING		_									
MIDDLE LNIERS BOLTOM UPPLH END MIDDLE LNIERS BOLTOM UPPLH END MIDDLE LNIERS BOLTOM UPPLH END MIDDLE LNIERS BOLTOM		_	,										
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MINDLE BOLLOM MINDLE FALLES BOLLOM	166	MIDDLE											
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INTIL 14 JUNE 83 ENGINEER A.J. DODSON DIVERS. NELWO SCHEUREN

CHESNAVFACENGCOM REPORT FPR-1-83(32), "PWC GUAM FLEET MOORING UNDERWATER INSPECTION REPORT,"

# INSPECTION RESULTS MOORING 22

#### Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a hawsepipe. The buoy is painted with standard colors and has a 42-inch freeboard. The buoy has only a light marine growth (one-quarter inch) on its bottom. Buoy is in good condition.

#### Riser

Riser is 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's initial wire size. From just below the buoy, about 40 feet of 2-inch wire rope is tightly entwined with the riser chain. The riser enters the bottom at a water depth of 70 feet.

## **Ground Legs/Anchors**

Not visible for inspection.

#### Recommendation

This mooring is in satisfactory condition for continued use as a class B mooring.

MCHOHING NO.	MG NO .	22	-CLASS		BR	100A	ION: PU	)C (Se	AHIA	1:13.2	6-37.7	10CATION: PWC (SWAHIAT: 13-36-327 Whong: 144-37-50, 6
WAILRDEPIN	DI PIN.	70,		ANCHOR SIZE/T	SIZE/T	YPE:20	1K 570	CKLESS	BUOY	TYPE: 1	13'x6'	YPE: 20K STOCKLESS BUOY TYPE: 12 x 6 DEUM WITHWISE PI PE
BOLIOM EYPE	W I YPE	SAND		MUD X		CLAY		CORAL		Пвоск	Visibil	Visibility 32' D = depth NI = not inspected, inaccessible
	<u> </u>						COND	CONDITION				
	COMPONENTS	NIS	ž	NEW	S	SINGLE LINK %	NK %	noa	DOUBLE LINK %	* *	đ	COMMENT
-	,				÷	801	-08	÷06	80 t	-08		
ā	BUOY HARIWARE	DWARE										FREEBOARD 42" FEUDER OK.
1	PEAR LINK	WK		3/4"								
DE	TPCHAL	DETPCHABLE LIUK		3 1/4								
<i>U</i>	CHAIN			28"								
_	Z Z	NEAH BIJOY		3/2"	7			7			410	40' OF 2" WIRE RUPE TIGHTLY
1112111	MIDD1 E	)1 E		Ţ	1			7			35	ENTININED WITH CHAID.
· · · · · · · · · · · · · · · · · · ·	NF A	NEAR GRU RG		$\rightarrow$	1			1			1,0%	
A-16	GROUND HING	HING										
		LHPF H END										
	MIDDLE	JI E										
<b>E</b> :	2	FNILHS BOLLOM										
		UPPLIET NO										
200	MIDDLE	)1 E										
	Ž	NOTION SHINT	1	1								
		DPP R END	:									
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	2	WOLLOW SHILLOW			1							
		ULTERINO										
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DIVERS. SOMEORED | RIEST DATE 1 TUNE 53 INCHAINTHING AJ. DODSON

# INSPECTION RESULTS MOORING 22/23

#### Buoy

This is a 10-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 32-inch freeboard. The buoy is in good condition.

## Riser

The riser consists of 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A swivel was observed to be in good condition at a water depth of 15 feet, and a 4 1/2-inch ground ring was located at a depth of 40 feet.

#### **Ground Legs**

The upper 50 feet or so of three ground legs were visible. All legs were 2 1/2-inch chain and all measurements taken were larger than 90 percent of the original diameters. At their attachment to the ground ring, two of the legs are side-by-side.

### **Anchors**

Not visible for inspection.

#### Recommendation

Ni = not inspected, inaccessible 015 M BEARING 395 H BEARING 150 H SWIVEL M. 15 BEARING FEUDENGIOD COMMENT D1. 434" O = depth FEEEBOARD 32". MINIMIN NO. 22/23 CLASS BR LOCATION: PUR GUAMIAT: 13-26-439 NIONG: 144-39' 39"E D.L. S 0.4.5 57.Q 2,575 3/2" 14 PROCK VISIBILITY 150' 76 ANCHOR SIZE/TYPE: 20K STOCKLESS, BUDY TYPE: 10 4 65" DRUM 5.4 2/3 : " 75 75 50' \ \ '0 3 38 ٥ 20, *‡*0 8 DOUBLE LINK % 9 CLAY CORAL **6** 1 CONDITION Ž 7 7 1 1 8 SINGLE LINK % 80 ŝ 7 QUM X 2,6 . ''' 2/2" NEW 1/7 ž SAND FILLES BOLLOM NITHS BOLLOW 58 NEAR GRU RG NEAH BOOY BLIOY HARIDWARE CIN I B I I I I DPTER FND DPPLR END CHOUND HING COMPONENTS MIDDLE MIDDLE MIDDLE MIDDLE BOLLOM LYPE. WALLED FEIL. GHOUFBU 166 No c CINCHES GHOUND LEG NO B HISTH ۶ ۱

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HARDING - DIVERS: NELSON, DATE 11 JUNE 83 INGINITION CHANGE A.J. DEDSON

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VISIBLE AND SUSPENDED ABOUT THE

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# MOORING 501

## Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 36-inch freeboard. The bottom of the buoy has only a light coating of marine growth. Overall, the buoy is in good condition.

## Riser

The riser consists of 2 1/2-inch chain and all measurements were larger than 90 percent of the chain's original wire size. The chain was only inspected to a water depth of 100 feet.

## **Ground Legs/Anchors**

Not visible for inspection.

### Recommendation

MOOHING NO.	NO. 501		CI ASS	B	BR	100A1	ON: PR	16 GL	JAMIA!	18.37	31.1	LOCATION: PWC GUAMLAT 13-37-31.1 1/ LONG: 144-37-51"E
WATER DEPTE		,091	<b>\$</b> 	S HOHOR	HZE/TY	PE: 301	K/57a	OKLES	∑ BUOY	TYPE: /	2.K	ANCHUR SIZE/TYPE: 30K/STOCKLES BUOY TYPE: 12 KG DRUM W/HAUSEPIPE
BOLLOMIYPE	••	SAND		Multi		] clay		CORAL		Ппоск	Visibil	Visibility 40 D = depth NI = not inspected, inaccessible
							CONDITION	NOIJ				
ี้ 	COMPONENTS		Ē	NEW	SIN	SINGI E LINK %	% X	DOO	DOUBLE LINK %	*	٥	COMMENT
ļ					106	108	-08	100	80+	-08		
OH	BIOY HARDWARE											36" FREEBARD, LIGHT GROWTH.
FSHA	F SHACKLE WILVES	165		356"								FENDER GOD
PEAR	PEAR LINK			3 1/4 "								
	NEAR BUOY			2/2"	7			7			<10,	
HISI II	MIDDLE				7			7			451	DETACHABLE LINK AT 45'
A-	NEAR GRD RG	16		>	1			7			92,	
	GHOUND HING											
	UPPER END											
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DIVERS: HARDING /TZUCANOW INTE 14 JUNE 83 INGINITHINGIANGE A. J. DODGOL

CHESMANFACENGCOM REPORT FPR-1-83(32), "PWC GUAM FLEET MOORING UNDERWATER INSPECTION REPORT,"

# INSPECTION RESULTS MOORING 25E

#### Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a hawsepipe. The buoy is painted with standard colors and has a 35-inch freeboard. The general condition of the buoy is good.

### Riser

The riser consists of 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A 4 3/4-inch-diameter ground ring was found on the bottom at a water depth of 42 feet.

#### **Ground Legs**

The upper few links of three ground legs were visible before the chain entered the bottom. All three legs were 2 1/2-inch chain and all measurements were larger than 90 percent of the original wire diameter.

### **Anchors**

Not visible for inspection.

#### Recommendation

COMMUNICATION   17   18   18   18   18   18   18   18	MOOHING NO .	JSE	CLASS.	2	BR	LOCATI	ON:PR	LOCATION: PWC GUAM LATE	14 LAI		-	LONG:		
Dand   Sand   Wall   Dilay   Condition	WALLE DEPTH.	42		ANCHOR	SIZE/IY	हां हां	K ST	DOKIE	<b>\$9</b> 00X	TYPE: 1	9×6	DEUM W/HA	WEFIFE	
NI NEW   SINGLE LINK %   DOUBLE LINK %   DOU	BOLLOM LYPE.	SANC		[]¥MUD		_		CORAL		ROCK	Visibili	14 1'-50'	udap → O	NI = not inspected, inacces
NITHER BOLITON   NITH							CONDI	LION						
100   100	DMPONER	11S	ž	NEW	SIA	IGLE LIN	% *	DOUE	SLE LINI	%	D		00	MMENT
1   1   1   1   1   1   1   1   1   1					106	108	-08	100	108	-08				
LINK   3%"	DY HARD	WARE		-								FREEBOAR	135"	FEUDER GOOD
NATH HILLY   28"   1	e LINK			2%"										
MICH HILLS BOLLON  MICH HILLS BO	or sow	WE LINK		28"										
NEARTH BLOY   3/5"   1														
MICHARION   35°   1														
MIDDLE         L </td <td>1 N</td> <td>впох</td> <td></td> <td>2/2"</td> <td>7</td> <td></td> <td></td> <td>7</td> <td></td> <td></td> <td>410,</td> <td></td> <td></td> <td></td>	1 N	впох		2/2"	7			7			410,			
HEAR GRID RIG	GGIM	1. F		-	7			7			-8			
UPPER END         434"         7         42'           UPPER END         2½         7         43'         02.5"           MIDDLE         1         43'         02.5"           MIDDLE         7         44'         02.5"           MIDDLE         1         44'         02.5"           MIDDLE         1         44'         02.5"           MIDDLE         1         42'         02.5"	NEAR	GMD RG		<b>→</b>	1			1			43,			
UPPER FIND   2½	H (INC)	ING		434"	7						42'			
MIDDLE		I E NO		2/2	1			7			43,	04.5"	BEARIN	UG 030 H
INITIAS BOLLOM         3/2         C         443         D.L. S."           MIDDLE         100 C. S."         443         D.L. S."           INTERBUTION         2/2         C         423         D.L. S."           MIDDLE         100 C. S."         C         423         D.L. S."           INITIAL BULLON         100 C. S."         C         C         C         C           MIDDLE         100 C. S."         C		1. L					·							
UPPLIETON         2½         V         443         D.L. 5"           MIDDLE         400         400         5"           INTERBOTION         2½         V         V         400         0.L. 5"           MIDDLE         100         V	INI	15 BOLLOM												
MIDDLE INTERBUTIOM UPPLICAND UPPLICAND UPPLICAND WIDDLE INTERBRUTIOM UPPLICAND MIDDLE INTERBUTIOM UPPLICAND MIDDLE INTERBRUTIOM		( END		2%	7			7			4,2	DL. 5"	BEARIA	
INTERSTRUCTION   2/2		 												
MIDDLE MIDDLE 1011	2	NOT LOUSE												
MIDDLE TAND MIDDLE		T NO		2/2	7			7	•			D.L. 5"	BEARI	NG 300 H
		<u>.</u>												
	Z	15 BOLLOM												
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WITHS BOLLOW		_												
	2	REBOTTOM:												

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# INSPECTION RESULTS MOORING 25W

#### Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a hawsepipe. The buoy is painted with standard colors and has a 35-inch freeboard. The general condition of the buoy is good.

### Riser

The riser consists of 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A 4 1/2-inch diameter ground ring was found on the bottom at a water depth of 41 feet.

## **Ground Legs**

The upper few links of three ground legs were visible before the chain entered the bottom. All three legs were 2 1/2-inch chain and all measurements were larger than 90 percent of the original wire diameter.

#### **Anchors**

Not visible for inspection.

#### Recommendation

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DAIL DOUE ST ENGINETH IN CHANGE: A. J. DODSON DIVERS: TORREDS/NELSON CHESHAVFACEMICOM REPORT FPR-1-83(32), "PMC GUAM FLEET MYORING UNDERWATER INSPECTION REPORT,"

## INSPECTION RESULTS MOORING 26E

### Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 45-inch freeboard. The general condition of the buoy is good.

### Riser

The riser consists of 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A 4 1/2-inch-diameter ground ring was found on the bottom at a water depth of 37 feet.

## **Ground Legs**

The upper few links of three ground legs were visible before the chain entered the bottom. All three legs were 2 1/2-inch chain and all measurements were larger than 90 percent of the original wire diameter.

#### **Anchors**

Not visible for inspection.

#### Recommendation

	W	*		2		<del></del>										A-26		===	2				
- Lake	MCKHING NO.	WALLE DEPTH:		BOLLOM LYPE:		CON		BUOY	24416	SHACKLE	PEAL			HISTH		CHC			٠	(3116 14 14/11)	166	3	   
						COMPONENTS		BLOY HARDWARE	CHAID LIDK	KLE	PEAR LINK		NEAR BUOY	MIDDLE	NEAR GRD RG	GROUND RING	UPPER END	MIDDI E	ENTERS BOTFOM	HPPEN END	MIDDLE	ENTERS BOTTOM	UPPLE END
2000 - 1200 - 2000 - 2000	26E	38,	3	SAND		<del>-,</del>		ŧĒ					DΥ		D RG		2		OLLOM	0		OTTOM	
	CLASS	¥ 	: 	4		ž																	
	B	CHOR S		MUD X		NEW			3,	334"	4"		2%"	-	$\rightarrow$	4/2"	2%			2/2"			3/1.
i.	BR	SIZE/TY.				SIN	• 06		7	7	7		7	7	7	7	7			7			7
	LOCATE	PE: <b>30</b> ,		CLAY		SINGLE LINK %	<b>80</b>																
	ONPUL	k STa			CONDITION	*	-08																
-	GUA	STIN		CORAL	TION	DOUE	<b>•</b> 06						7	7	7		7			7			7
	MLAT	Sauoy		$\bar{\Box}$		DOUBLE LINK %	108																
	13:25	TYPE:		Пвоск		*	-08																
	4/2,	1,26		Visibili		٥							101>	30'		37	, 88			38'			38,
100 000 000 000 000 000 000 000 000 000	10CATION PUR GUANTLAT: 13-25-46,2 NLONG: 149-40-14.1 6	ANCHOR SIZE/TYPE: JOK STOCKLESS BUOY TYPE: 13 16 DOUT 10 HANKE PIPE		Visibility 10 C				FREEDOARD 45" FENDER GOOD	GROWTH 1/2"-1					SWIVEL AT 23		;	BEARING 080°M			BEARING 1650 M			BEARING
	14.1 6	KEAFE	1	D = depth		COM		0 45"	1-13/			•		251			Nº080			H059			20,00
				N = 10		COMMENT		FEL			 												
				NI = not inspected, inaccessible				DEE															
				d, inacces				600,															
				situte				Q															

DATE 10 TONE 83 ENGINETH IN CHARGE: A.J. DODSON DIVERS: NELSON

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UPPER END MIDDLE

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CHESNAVFACENGCOM REPORT FPR-1-83(32), "PMC GUAM FLEET MOURING UNDERWATER INSPECTION REPORT,"

# INSPECTION RESULTS MOORING 26W

## **Buoy**

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a hawsepipe. The buoy is painted with standard colors and has a 45-inch freeboard. The general condition of the buoy is good.

## Riser

The riser consists of 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A 4 9/16-inch diameter ground ring was found on the bottom at a water depth of 38 feet.

## **Ground Legs**

About 10 feet of each of the three ground legs were visible before the chain entered the bottom. All three legs were 2 1/2-inch chain and all measurements were larger than 90 percent of the original wire diameter.

### **Anchors**

Not visible for inspection.

#### Recommendation

MATH HILPHIL 38 ANCHOR SIZE/TY HOTTOM TYPE. SAND MAUD BURDY HARIDWARE  CHALD LLUX 3/" SHACKLE  SHACKLE  GIGHNIN HISLH MIDDLE HOTH REND GIGHNIN HISLH MIDDLE HOTH REND GIGHNIN HODLE NO C FINITHS BOTTOM GIGHNIN HODLE H	MCHOHING NO :	10. 26 W CLASS	CLASS		BR	LOCAT	DN:PU	7C G	MAN	1.13.28	# 27	LOCATION: PWC GUANAT: 13-25-46-2 1/400NG: 144-40-14.1"E
COMPONENTS   NI NEW SINGLE LINK & DOUBLE L	WALLEDLE		Ì	ANCHOR S	SIZE/T)	re: 30	X	XKIE	Xauoy	TYPE:	2 KE	DRUM WHAWSEPHE
COMPTION  COMPTION  BUOY INAIDWANE  CHALL LINK  SLARCKLE   NOLION IX			OOM X		] сгау		CORAL		ROCK	Visibil	D = depth	
COMPONENTS   NI NEW SINGLELINK & DOUBLELINK & DOUBLELIN							COND	TION				
HISTH   MIDDLE   24   10   10   10   10   10   10   10   1	*CO	PONENIS	ž	NEW	S	NGLE LI	X X	noa	BLE LIN	* *	a	COMMENT
120 LWK					90	80.	- 98	•00	100	-08		
CHALL LINK 3"  SLARKLE 3%  NEAH BUOY 3%  GHOUND HING 4%  GHOUND HING 4%  GHOUND HING 4%  CHOUND HING 4%  CHOUND HING A3%  CHOUND AND HING A3%  CHOUND HING HOUSE  NOTH HEND A3%  CHOUND AND HING HOUSE  HILG  NO C ANTERS BOTTOM  CHURH HEND  CHOUND AND HING HOUSE  HILG  NO C ANTERS BOTTOM  CHURH HOUSE  HILG  NO C ANTERS BOTTOM  CHURH HOUSE  HILG  HILG  NO C HULLIS BOTTOM  CHURH HOUSE  HILG	COCIA	HAHDWARE										45" FREEBARD, GROWTH 1/5"-1".
SMACKLE 3\%''    NEAH BHOY 3\%'' \cdot \cd	CHA	IN LINK		3"								
HISLII   MIDDLE	5H/	RKLE		3%"								
NEAR BLIOY   35"   C   20'												
HISCH MIDDLE 22" C C 30" 1 20" C C 38" C C C 38" C C C C C C C C C C C C C C C C C C C												
HISLH MIDDLE  MEARGRID RG  GHOLING  LITCHIND  LICH MIDDLE  MIDDLE  MIDDLE  LICH MIDDLE  MIDDLE  LOTTERS BOTTOM  GHOLING  LICG  MIDDLE  NO. C. FALLERS BOTTOM  GHOLING  GHOLING  LICG  MIDDLE  NO. C. FALLERS BOTTOM  GHOLING  MIDDLE  LOTTERS BOTTOM  GHOLING  HITCH  MIDDLE  LOTTERS BOTTOM  HITCH  MIDDLE  LOTTERS BOTTOM  HITCH  HITCH  MIDDLE  LOTTERS BOTTOM  HITCH  HIT		NEAR BUOY		3/2"	ļ			7			<10'	
NEAR GILD RG   198   1	HISTH	MIDDLE						7			30'	2 34" SWIVEL AT 23'
GHOUND HING   4%   18   18   18   18   18   18   18   1		NEAR GRD RG		$\rightarrow$	7			7			38	
Oliver of the control of the contr		UND RING		4%							38,	22" DIAMETER
MIDDLE		DPPEH END		3/2"	7			7			38'	BENEWG 080'H
UPPLE BOTTOM   3.1/4.7   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   38   1.   1.   1.   1.   1.   1.   1.   1		MINN E										
UPPLE LND         2½"         V         38"           MIDDLE         1         1         38"           UPPLE END         2½"         V         38"           MIDDLE         INTERSECTION         38"         INTERSECTION         38"           MIDDLE         INTERSECTION         INTERSECTION         INTERSECTION         INTERSECTION         INTERSECTION	£	ENITERS BOLLOM										
MIDDLE LILLER BOTTOM  MIDDLE HALLES BOTTOM  MIDDLE HALLES BOTTOM  MIDDLE HALLES BOTTOM  MIDDLE HALLES BOTTOM		OPPLA END		24"				7	-		38	BEARWG 1654
UPPLIE BOTTOM  UPPLIE END  ARIDOLE  FINITHS BOTTOM  UPPLIE LND  MIDDLE  FINITHS BOTTOM	9 5	MIDDLE										
UPPLIREND  MIDDLE HAILES BOTTOM HAPLE	-	LNIERS BOTTOM										
MIDDLE HALLES BOT LOM		UPPLR END		2/2"				7			38'	
UNPER END MIDDLE FNIERS BOLLOM		Milbor E										
MIDDLE INTERSOLIOM		FNIERS BOTIOM										10 OF EACH GROUND LEG-
												VISIBLE
							ĺ					
		MOTIONSHINE									-	

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DIVERS: AUSTIN / SCHEUREN CHESNAVFACENGCOM REPORT FPR-1-83(32), "PMC GUAM FLEET MOORING UNDERWATER INSPECTION REPORT,". DATE 10 JUNE 831 NOINTH IN CHANGE AT DODEN

# INSPECTION RESULTS MOORING 27E

## Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a hawsepipe. The buoy is painted with standard colors and has a 38-inch freeboard. The buoy hull has a 2-foot-wide, 2-inch-deep dent just below the fender. However, there is no rust and the fiberglass covering the dent is still intact. There is only a light coating of marine growth (one-quarter inch) on the buoy's bottom.

#### Riser

The riser consists of 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A 4 1/2-inch diameter ground ring was found near the bottom at a water depth of 30 feet.

## **Ground Legs**

The upper few links of three ground legs were visible before the chain entered the bottom. All three legs were 2 1/2-inch chain and all measurements were larger than 90 percent of the original wire diameter.

#### **Anchors**

Not visible for inspection.

#### Recommendation

WATER DEPTR	PIN: 31'		ANCHORS	SIZE/I \	rPE:20	K STO	ckies	S. BUOY	TYPE:/	)×6	ANCHOR SIZE/TYPE. 20 K STOCKLESS, BUOY TYPE: 19 x 6 DRUM WHANSEPIPE
BOTTOM LYPE:	YPE: 🔲 SAND		MUD MUD		] clay		CORAL		П воск	Visibility –	ity 2/ D = depth NI = not inspected, inaccessible
						CONDITION	TION				
600	COMPONENTS	ž	NEW	SII	SINGLE LINK %	NK %	DOO	DOUBLE LINK %	× ×	a	COMMENT
				106	108	-08	+06	<b>80</b>	-980		
BIO	BUOY HARIDWARE										38" FREEBOARD, FIBERGLASS.
											BOON HULL HAS 3 DIAMETER
											2" DEED DEUT NEAR FRUDER
											(FIBERGLASS NOTACT. LIGHT (1/4")
											беомтн.
	NEAR BLKDY		2%"	1			7		,	101>	
RISER	MDDLE			7			7			30'	
	NEAN GRU RG		7	7			7			30.	
CHE	GHOUND HING		4/2"							30'	LEGA BEARING 035 M
(141 R 202	UPPER END		2%"	7		_	7			3,'	FEW FEET OF EACH GRANDS
FEG P	MIDD) E										LEG WSIBLE BEFORE
	ENTERS BOLTOM	•									FUTERIUS BITTOM.
	OPPER END		ンなった。	7			7			31'	BEARING 155 M
1 EG NO 18	MIDDLE										
	LNIERS BOLLOM	5									
	UPPER END		272.	7			7			3,'	BEARING 300 H
931 	MIDDLE										
		_									
	OPPER END										
100 CM	MIDDI E										
	NOTION SHITING	•									
	in Think Pr	7			7		10000		4	7.7.7	1/ 101/01

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\$250 \$250 \$250 \$250 \$2**10** \$250

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MODITING NO. 27E

マインジング  CLASS: BR LOCATION: PLUC GUAM LAT: (3-25:39.6 MONG: 144-40-14.9 E

DATE 10 JUNE 83 ENGINEER IN CHARGE: A.J. DODSON DIVERS: DEMING PEIST

CHESHAVFACENGCOM REPORT FPR-1-83(32), "PMC GUAM FLEET MOORING UNDERWATER INSPECTION REPORT,"

# INSPECTION RESULTS MOORING 27W

#### Buoy

This is a 12-foot-diameter fiberglass-coated drum-type buoy with a hawsepipe. The buoy is painted with standard colors and has a 37-inch freeboard. There is some rust on the chafing rail but the general condition of the buoy is good.

### Riser

The riser consists of 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A 3-inch-diameter ground ring was found near the bottom at a water depth of 38 feet.

## **Ground Legs**

The upper few feet of each of three ground legs were visible before the chain entered the bottom. All three legs were 2 1/2-inch chain and all measurements were larger than 90 percent of the original wire diameter.

## **Anchors**

Not visible for inspection.

#### Recommendation

MOORING NO.		27W CLASS	LASS		BR	LOCAT	ION PR	ر اد ط	MAN	1.13.2	F. 40.4	OCATION PWO GUAPLAT: 13 35-40. 4 WLONG: 144-46-05.8 E
WALLRDLPIN		40,	₹ 	VCHOR SI	IZE/TY	PE. 20	K 572k	Y1.ES	î BUOY	TYPE:	1×6	ANCHOR SIZE/TYPE. JOK STOCKLESS BUOY TYPE: 12 X6 DEUM WITHWESE APPE
HOTIOM 1YPE		SAND		MUD MUD	<u>_</u>	] CLAY		CORAL		ROCK	Visibil	$\square ROCK = Visibility \frac{(5^{-1}2)^2}{10^{-1}} = 0 = depth = NI = not inspected, inaccessible$
							CONDITION	TION				
<u> </u>	COMPONENTS		Ē	NEW	SIF	SINGLE LINK &	K %	nod	DOUBLE LINK %	*	a	COMMENT
					90+	₩	-08	•00	108	-080		•
909	BUOY HARDWARE											37" FREEBOARD. RUSTON
1. 54	F SHACKLE	_		3%"								CHAFING RAIL. FEMBER 600D
PEAK	PEAR LINK			3%"								
	NEAR BLIOY			2/2"	7			7			<10 .	D.L. 5"
RISER	MIDDLE			_	7			7			ج	0.4 5"
	NEAR GRU RG	RG		<b>→</b>	1			7			38,	" 1/2 th .70
Š	GROUND HING			3,							38	
	UPPER END			2/2"							40,	BEARING 056 H D.L 4 74"
	MIDDI E											
	ENTERS BOTTOM	LOM										•
CHOMINI	UPPLR END			2/2"							10,	BEARDS 180 M D.L. 434"
1 E G	MIDDI E							٠				
	LN1LHS BOTTOM	WOI										
	UPPER END			1/2							10%	BEARING 290°M D.L. 474"
	MIDDLE											

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DIVERS: BRADSHAW (TZUCANOW) DALI 10 JONE 83 LINGINITH IN CHARGE: A.J. DODSON

MOTIONERSHOM

FNICHS BOLLOM

MIDDLE

CHESHAVFACFNGCOM KEPORT FPR-1-83(32), "PWC GUAM FLEET MOORING UNDERWATER INSPECTION REPORT,"

LEGS WERE NOT VISIBLE FOR INSPECTION

ANODES PURPLEDLY ON GROUND

DUETO BURIAL IN MUD

FEW FEET EACH LEG

## INSPECTION RESULTS MOORING 12/13

#### Buoy

This is a 9-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 18-inch freeboard. The general condition of the buoy is good.

#### Riser

The riser consists of 2 -inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A  $4\,1/2$ -inch diameter ground ring was found on the bottom at a water depth of 98 feet.

## **Ground Legs**

The upper 10 feet of each of the three ground legs were visible before the chain entered the bottom. All three legs were 2 -inch chain and all measurements were larger than 90 percent of the original wire diameter. The leg bearings are 029, 031, and 215 degrees, although a 120-degree separation of the ground legs is desired.

#### **Anchors**

Not visible for inspection.

#### Recommendation

This mooring is in satisfactory condition for continued use as a class D mooring. However, the orientation of the ground legs should be checked during the next overhaul and these legs reinstalled if required.

MOONING NO.	12/13	CLASS.	T	) K	LOCAT	ION:PR	CKUA	HIM	1.13-2	. £1 N	LOCATION PINC KUAH LAT: 13-26- 41 A LONG: 144-39-026 "
WALLROIPHE	чи: 98'		VNCHOR S	31ZE/TY	'PE: 20,	K STa	reces	∑auoy	TYPE:9	1,46,2	ANCHOR SIZE/I YPE: 20K STOCKLESS BUOY TYPE: 9 " 6" DRUM NO HAWSEOFPE
HOLLOM LYPE	YPE: 🔲 SAND		OUM X		CLAY		CORAL		Пвоск		Visibility $\frac{40'}{}$ D = depth NI = not inspected, inaccessible
						CONDITION	TION				
ອ 	COMPONENTS	ž	NEW	SIA	SINGLE LINK %	NK %	DOO	DOUBLE LINK %	*	٥	COMMENT
				106	<b>80</b>	-08	+06	80+	-08		
BUO	BUOY HAHDWARE										FREE BLARD IR" FEUDER GOOD
PEA	PEAR LINK		27/4								I "GROWTH ON BOTTOM
"F"SHA	"F"SHACKLE W/WES		8/2								
$(\rho \tau_N)$	(PIN) SHARLE		218.								
•											
	NEAR BLIOY		ير	7			7			-00	
RISER	Mibble			1			7			45'	
	NEAR GRU RG		7,,	1			7			92'	
34	GROUND HING		4%"							98,	34 "DIAMETER
	LIPPE IR END		"	7			7			18,	BEARING 034°M
11.00 A 200	MIDDLE										,
	ENTERS BOTTOM	•									
	WPLH END		ב	7			1			,86	BEARING 03, H
1 C8	MIDDLE										
	LNH RS BOLTOM	_									
	ONTHEND		ה".	7			7			,86	BEARNG 2150H
) (1) (1) (1) (1) (1) (1) (1) (1) (1) (1	MIDDLE										
	INTERS BOILON										EACH LEG VISIBLE FOR PARUT
	CILLE LND										10' au Bottoy. LEGS VERY TAUGHT
971	MIDDLE										
	MOTTORSHOIN										

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DIVERS: TZUCANOW SCHEUKEN DALL 13 JUNE 83 ENGINETH IN CHARGE: A.T. DODSON

CHESNAVFACENGCOM REPORT FPR-1-83(32), "PWC GUAN FLEET MOORING UNDERWATER INSPECTION REPORT,"

## INSPECTION RESULTS MOORING 13

#### Buoy

This is a 9-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 32-inch freeboard. The general condition of the buoy is good.

#### Riser

The riser consists of 2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A 4 1/2-inch-diameter ground ring was found on the bottom at a water depth of 105 feet.

## **Ground Legs**

The upper few links of three ground legs were measured with calipers. All three legs were 2-inch chain and all measurements were larger than 90 percent of the original wire diameter.

#### **Anchors**

P

Not visible for inspection.

### Recommendation

MOONING NO	NO. 13	_ CI ASS.	A	R	tocal	TION PUL	1C GUA	H_LA]	1: [3-3 <u>4</u>		OCATION PUL GUAH LAT: 13-26-42 1/ LONG: 144-39-01/2
WALLE DEPTH:	PHR		ANCHOR	SIZE/	IYPE: 🏒	ik sta	KLEST	BUOY	ТУРЕ:2	77	ANCHOR SIZE/TYPE: 20K STOCKLESS BUOY TYPE: 9x6 DEVM W HAMBE PIPE
BOLLOM LYPE:	YPE: SAND	Q	OUM X		CLAY		CORAL	ļ	П воск	Visibil	Visibility $\frac{20^{1}}{10^{10}}$ D = depth NI = not inspected, maccessible
						CONDITION	ITION				
ē	COMPONENTS	ž	NEW	S	SINGLEL	LE LINK %	DOO	DOUBLE LINK %	*	a	COMMENT
				<del>1</del> 06	₩	-08	+06	801	-08		
.009	BUOY HARDWARE										FREEBOARD 31", FENDER GODD. 1"
"F"S#	F"SHACKLE WILVES		274.								эм.
PEAR	PEAR LINK		23%"								
							·				
	NEAR BUOY		" 2	7			7		4	710,	
RISLR	MIDDLE			7			7			20,	
A-36	NEAR GRU RG			7			7			105	SWIVEL AT 83'
	GROUND RING		4/2.							105	
	UPPEH END		`ત	7			7			,501	BEARING OTO H
911	MIDDLE										
	LNIERSBOILOM										
CHORIN	OPPLIE END		", "	7			7			105	BEACING 160 M
5 5 8 8 6 8	MIDDLE										
	LNIL RS BOLTOM										
A DIMENSION OF THE PARTY OF THE	OPPLE LND		<u>"</u> ر	7			7			(05'	BEARING 270 M
912	MIDDLE										
	WOLLOS BOLLOW										
	ONT H TAID										
	MIDDLE										
	MOTTORSHILM										

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TORREUS DIVERS: DEMINOG DALL 13 JUNE 83 INGITITER IN CHARGE: AT DODSON

CHESHAVFACENIGCIM REPORT FPR-1-83(32), "PWC GIJAM FLEET MOORING UNDERWATER INSPECTION REPORT,"

# INSPECTION RESULTS MOORING 14

## **Buoy**

This is a 9-foot-diameter fiberglass-coated drum-type buoy with a hawsepipe. The buoy is painted with standard colors and has a 30-inch freeboard. There is a 1- to 3-inch marine growth on its bottom. Overall, this buoy is in good condition.

## Riser

The riser consists of 2-inch chain. All measurements taken were larger than 90 percent of the chain's original wire size. The riser vertically enters the bottom at a water depth of 97 feet.

## Ground Ring/Ground Legs/Anchors

Not visible for inspection.

### Recommendation

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MODHING NO :  WATH RIDE PHE  COMPONE!  COMPONE!  F SHACKLE  PEAE LWK  PEAE LWK  GROUND II  I EG  NEAH  NEAH  UPPEE GROUND II  LEG  NO A  ENTEE  LIPPEE   HIDWALL HIDWALL HIDWALL HIDWALL HIDBURGEN HILLS BETTER EN HILL	SAND SAND OV OITOM OITOM	S	NEW	SIZE/I	TYPE: 20K STORE CONTIONS  CLAY  BOI BOI BO	K STONIE COND	STOCKUES  CONDITION  CONDITION  K* DOU  T  T  T  T  T  T  T  T  T  T  T  T  T	## LAT:   13   13   13   13   13   13   13   1	LAT: [3-2]  OV TYPE: BO-	Visibility O D Visibility Visibility O D D D D D D D D D D D D D D D D D D	DR   10CATION: PIUC GIMM LAT: [3-26-497] MANUSCRIPE   ANURINO SIZETYPE: 30K STOCKUES BUILD TYPE: 9'k'   DRUM WO   MANUSCRIPE   DAUD	
GHOUND 1EG NO. C	UPPER END MIDDLE ENTEROTION	W C										
CHOUND 11 C NO D	UPPLR END MIDDLE FRIERS BOLLOM	W C	<del>         </del>									

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DIVERS: AUSTIU. DALL 13 JUNE 83 ENGINEERINGHARE AJ. DODSON CHESNAVFACENGCOM REPORT FPR-1-83(32), "PWC GUAM FLEET MOORING UNDERWATER INSPECTION REPORT,"

# INSPECTION RESULTS MOORING 15/16

### Buoy

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This is a 9-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 27-inch freeboard. Except for some light marine growth on the bottom, the buoy is in good condition.

## Riser

The riser consists of 2-inch chain. Single and double link measurements were all greater than 90 percent of the chain's original wire size. The riser enters the bottom at a depth of 97 feet.

## Ground Ring/Ground Legs/Anchors

Not visible for inspection.

#### Recommendation

Ž	MOORING NO.		15/16 CLASS.	CLASS		2	- 10CA	TION: E	WC G	AMILA	1.13.2	1-49.7	10CATION: PUC GUAMIAT: 13-26-49.7 NIONG: 144-39-08.4 E
3	WATER DEPTH:	=======================================	97		ANCHOR	S1ZE/T	YPE: 2	2K STE	JOKIE	SSBUOY	/ TYPE:	7,86,	ANCHOR SIZE/IYPE: 20X STOCKLESSBUOY IYPE: 9 x 6 DRUH WITHUSEPIPE
=	BOLLOM LYPE		SAND		OUM X		CLAY	<b>□</b>	CORAL		□ ROCK		Visibility /5 / D = depth NI = not inspected, inaccessible
								CON	CONDITION				
	COM	COMPONENTS		Ē	NEW	S	SINGLE LINK %	INK %	DOL	DOUBLE LINK %	VK %	O	COMMENT
						904	₩	-08	98	108	-08		
	КОИЯ	BLOY HARDWARE	¥E										27" FREE BOARD. LIGHT GROWTH OW
<u>'</u>	DETAC	DETACHABLE LIUK	LIUK		21/2								BOTTOM
!	DETAG	DETACHABLE LINK	LWK		"	7							
	PEAR LINK	LINK			2%:	7							
		NLAR BUOY	07		۵,	7			7			C10'	2.6 1 多" 2.4 3 4"
	изен	MIDD1 E				7			7			Έ,	D.L 3 34"
		NEAR GRD RG	D RG		_>	7			7			92,	D.L. 3 34"
-40	089	GROUND HING											
		UPPER END	Q										
		MIDDLE					_						
!	C	ENTERS BOTTOM	OFFOM										
	CHOMBO	UPPER END	9										
<u> </u>	11.0	MIDDI E											
		ENTERS BOTTOM	MOTTOM										
	Contraction (	UPPLH END	٥										
	11.6 11.6 10.0	MIDDLE											
		I NIEHS BOTTOM	MOLIO										
		OPPLH END	<u> </u>										
		MIDDI E											
		MO1108 88 11N 1	MOTTO	>									

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BRAD SHAW DATE 13 JUNE 83 ENGINEERINGIARIES A.J. DODSON DIVERS SPEAR

## INSPECTION RESULTS MOORING 17

## Buoy

This is a 9-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy has a 20-inch freeboard and has a light coating of marine growth on the hardware. A 1 1/2-inch shackle in the top jewelry is attached to a lug of a larger 2 5/8-inch shackle. Overall the buoy is in good condition.

### Riser

The riser consists of 2-inch chain. Single and double link measurements were all greater than 90 percent of the chain's initial wire diameter. A 4 1/2-inch wire size ground ring was located at a water depth of 81 feet. The bottom was estimated to be about 15 feet below the ground ring.

## **Ground Leg/Anchors**

Not inspected.

#### Recommendation

This mooring is in satisfactory condition for continued use as a class D mooring. However, since all components of a class D mooring should have, as a minimum, a wire size of 2 inches, recommend that the 1 1/2-inch shackle be removed from the top jewelry to preclude a vessel inadvertently mooring to an undersized component.

MODHING NO	17	CI ASS	\SS	DE	3	CATIC	N. ACC	GUA	A)	T:13-2	1-53,4	LOCATION: ACK GUAM LAT: 13-31-53,4 1/2 LONG: 144-39-02,2 E
WATER DEPTH:	, 76 min		_ ANCHO	A SIZ	E/I YPE	SK	STOCK	5537	_ BUOY	' TYPE:	7×6 1	ANCHOR SIZE/IYPE JOK STOCKLESS BUOY TYPE: 9 XL DRUM W HAWSE PIPE
BOLLOM LYPE	IYPE. 🔲 SAND	AND	∭'MUD	90		CLAY		CORAL		Пвоск		Visibility $\frac{15^{1}}{15^{10}}$ D = depth NI = not inspected, inaccessible
							CONDITION	NOI				
ざ 	COMPONENTS	Ž	NEW	_	SING	SINGLE LINK %	*	000	DOUBLE LINK %	% %	۵	COMMENT
					106	108	-08	+06	801	-08		
MI	BUOY HARDWARE											20"FREEBOARD. FENDER GOOD.
F SHA	F SHACKLE W/WCS	9.0	340."	.=								12" GROWTH ON BOTTOM
SHALD	SHAPPLE PIN		ره.									
PEAR	PEAR LINK		3%	: 3					•			
SHA	SHAUKLE		1/2"		(ATTACH)	0 03	7007	rens	16 6 ST	HED TO LUG OF LANCE SMOKLE		
	NEAH BUOY		rs	7	7			7			, OI >	
RISIR	MIDDLE		-		7			7			45'	
	NEAR GRD RG		<u>→</u>	7	7			7			80	SWIVEL AT 63'
3 A-42	GROUND HING		45.	7,7							18	
2	THE REND											RING , DID NOT HEASURE LEG
	MIDDLE			<u> </u>						İ		CHAIN DIAMETERS, HOWEVER, DID
	LNIERS BOLTOM	ž										GET LES BEARINGS:
IN KILL	OPPLR LND											1EG A 130"H
5 7 2	MIDDLE.					-						
	L'N1 LHS BOLLOM	W										
	INPER END											
	MIDDLE											
	WOLLES BOLLOW	Σ			-							
	OPPLE END											
	MHODI E											
<u>.</u>	MOLICERSHIOM	$\frac{1}{2}$										

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TORREUS DIVERS: DENHING 83 INGINITH IN CHANGE: AT DOSON 13 JUNE

CHESMAVFACENGCOM REPORT FPR-1-83(32), "PMC GIAM FLEET MOORING UNDERWATER INSPECTION REPORT,"

## INSPECTION RESULTS MOORING 28E

## <u>Buoy</u>

This is a 9-foot-diameter fiberglass-coated drum-type buoy with a tension bar. The buoy is painted with standard colors and has a 19-inch freeboard. The top plate and top jewelry are badly rusted, and the chafing rail is bent. The buoy has been slightly damaged and has a one-half-inch-deep dent through the fiberglass. The dent is heavily rusted, the fiberglass is chipped, and the metal below the chipped area is deteriorating.

#### Riser

The riser consists of 2 1/2-inch chain. Single and double link measurements were all larger than 90 percent of the chain's initial wire size. The riser vertically enters the bottom at a water depth of 32 feet.

## **Ground Legs/Anchors**

Not visible for inspection.

#### Recommendation

This mooring is in satisfactory condition for continued use as a class B mooring. However, the buoy is in need of refurbishment.

VATER DEPTH:	33		Ì	ANCHOR	SIZE/T)	re: 2	K STOCK	KLESS	BUOY	TYPE: 2	, 9x	ANCHOR SIZE/TYPE: DOK STOCKESS BUOY TYPE: 9 X 6 DRUM WHAKEPIPE
OLIOM LYPE		SAND		MUD MUD		CLAY		CORAL		Пвоск	Visibility_	$\frac{10^{l}}{1000} = 0 = depth \qquad NI = not inspected, inaccessible$
							CONDITION	TION				
CON	COMPONENTS		Z	NEW	SIN	NGI.E LINK %	1K %	8000	DOUBLE LINK %	% ×	O	COMMENT
					90	₩	-08	•00÷	108	-08		
ВООХ	BUOY HARDWARE											19 "FREELBOARD, TOP PLATE BANKY
F SHACKLE W	KE 10/1065	65		3%								RUSTED. CHAFINGRAIL BENT, BUDY
PIN Si	PIN SHACKLE		 	244.								DAMAGED. HAS 1/3" DENT WITH
PEAR LIUK	LIUK			3 24"								CORRODING HETAL SHAWING
	NEAR BLIOY			3%"	7			7			<10, <10,	
RISER	MIDDLE				7			7			, %	
	NEAR GRD RG	ن		<del>-&gt;</del>	1			7			32,	
CHC	GHOUND HING		_									
	LIPPER END											
andone 110 110	MIDDLE		_									
	LNIERSBOTTOM	₩ <sub>C</sub>										
OW WOO!	UPPER END											
I LG	MIDDLE											
	LNIERSBOFFOM	MOI										
	UPPER END											
	MIDDLE											
	FNIERS BOTTOM	NO.										
Chanalan	OPPLE LND											
911	MIDDI É											
	INTERSBOTION	WOL	$\dot{\leftarrow}$									
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MOLITHING NO. 28 E CLASS:

BR LOCATION: PINC GURY LAT: 13-25-34.6 N LONG: 144-40-10"E

DIVERS: COTEUESSA / HARDING DATE 10 JUNE 8 S ENGINETIEIN CHARGE: H. J. 18050N

CHESSAAFACEHGCOM REPORT FPR-1-83(32), "PWC GUAM FLEET MOORING UNDERWATER INSPECTION REPORT,"

# INSPECTION RESULTS MOORING 28W

#### Buoy

This is a 12-foot-diameter drum-type buoy with a hawsepipe. The buoy is painted with standard colors and has a 34-inch freeboard. The general condition of the buoy is good.

### Riser

The riser consists of 2 1/2-inch chain. All single and double link measurements were larger than 90 percent of the chain's original wire size. A 4 5/8-inch diameter ground ring was found near the bottom at a water depth of 30 feet.

#### **Ground Legs**

The upper 10 feet of the three ground legs were visible before the chain entered the bottom. All three legs were 2 1/2-inch chain and all measurements were larger than 90 percent of the original wire diameter.

### **Anchors**

Not visible for inspection.

#### Recommendation

NI = not inspected, maccessible 34" FREEBBAED. FENDER GOOD 36 1006 COMMENT " HARINE GROWTH BEARING 050 H MAYILING NO. 28 W CLASS: BR LOCATION: PUC GUMMLAT: 13-35-349 NLONG: 144-46-046"E ANCHOR SIZE/TYPE, ZOK STOCKLESS BUOY TYPE JX6 DEUM WHOWSEMPE 3200 O = depth. 34" DIAHETER 2%"SWIVEL BEARING BEARING Visibility 10' 3, 30 2 30, ٥ 35 36 31 ☐ ROCK å DOUBLE LINK % 9 CLAY CORAL ġ CONDITION 7 7 å SINGLE LINK % 9 ŝ 7 MUD MUD 2%" 22: 3/2" NEW Ē ONAS | ENTERS BOTTOM ENTERS BOTTOM SPIDER U/W DETACHABLE NEAR GRD RG 3 PEAR 36 **NEAR BUOY** BIJOY HARIDWARE UPPER END IPPER END WPER END GROUND RING COMPONENTS MIDDI E MIDDLE MIDDIN E MIDDI E BOTTOM LYPE: WATERDEPHE SPIDER GROUND LEG NO. A GROUND 11G NO C CHOUND SPIDER 2 PEAR HISTH A-46

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SCHEUREN DIVERS: AUSTIN, DATE 10 JUNE 83 INGINITION INCHANCE AT DODSON

INITERS BOLLOM

36

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1/2

FNIERS BOTTOM

MPPLE END

MIDDLE

GROUND LEG NO D ANNEX B

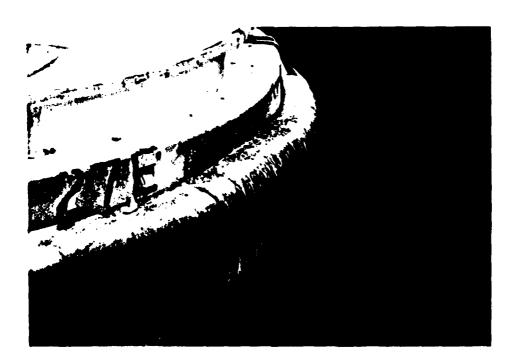
**PHOTOGRAPHS** 



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Marine Growth on the Bottom of Buoy 701.

This is Typical of the Condition of Most Buoy Hulls



Damaged Fender and Upper Hull of Buoy 27E



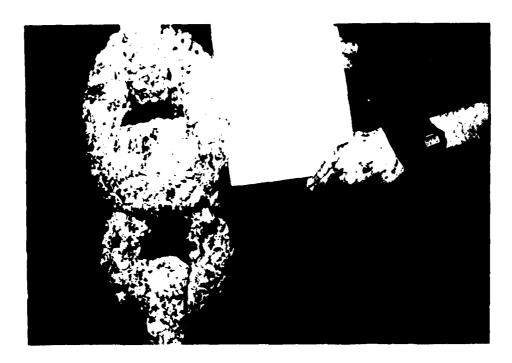
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Heavy Rusting of Top Deck and Jewelry of Buoy 28E



Ground Ring of Mooring 22/23.

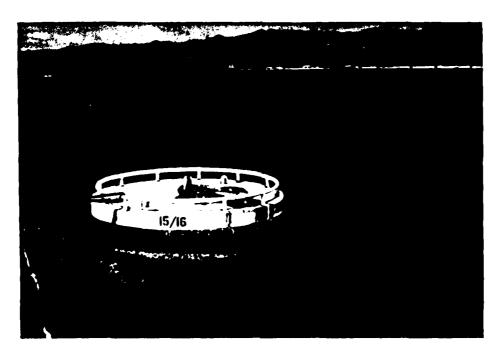
Note that Two Legs are Together at Their Attachment to the Ring



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Swivel in the Riser of Mooring 15/16



Typical Good Condition of Recently Overhauled Buoys

ANNEX C

REFERENCES

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FROM CHEZNAVEACENGOOM WAZHINGTON DO

TO PWC GUAM

INFO COMNAVFACENGCOM ALEXANDRIA VA

PACNAVFACENGCOM PEARL HARBOR HI

NUCFUZ \\NJJOOO\\

ZUBJ: FLEET MOORING INSPECTION

L. A CHESNAVFACENGCOM/UCT TWO UNDERWATER INSPECTION OF THE 22 FLEET MOORINGS LOCATED AT GUAM WAS CONDUCTED DURING THE PERIOD 6-14 JUNE 1883. THIS IS A PRELIMINARY REPORT OF THE INSPECTION RESULTS. FINDINGS ARE AS FOLLOWS:

A. MOORINGS 951, 701, 702, 703, 22, 22/23, 501, 256, 25W, 266, 26W, 27E, 27W, 12/13, 13, 14, 15/16, 17, 28E, 28W, EC-2: GOOD CONDITION.

B. MOORING 704: RECOMMEND OVERHAUL AS PLANNED TO UP GRADE MOORING TO ORIGINAL CLASS A.

2. CHESNAVFACENGCOM POINT OF CONTACT IS MR. J. MCLAUGHLIN AT AUVOVON

D STF

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J. MCLAUGHLIN FP0-107 AGA
15 JULY 83 33881

FERSON ENGR. HD, OCEAN ENGR. 8

PROJ OFFICE

COPY TO: 09/00: 0161: DAILY FPO-1EA{PDC1: FF0-1EA FPO-1C7

FP0-1C..FP0-10P2

UNCLASSIFIED

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C162-2# -C02-1719

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FM PWC GUAM

TO CHESNAVFACENGCOM MASHINGTON DC

INFO COMNAVFACENGEOM ALEXANDRIA VA COM THREE ONE NCR PORT HUENEME CA COM THREE ZERO NCR GUAM COMCBPAC PEARL HARBOR HI PACNAVFACENGCOM PEARL HARBOR HI UCT TWO

BT UNCLAS //N11000//

SUBJ: FLEET MOORING INSPECTIONS

A. CHESNAVFACENGCOM WASHINGTON DC 123054Z APR 83

THE FOLLOWING INFO IS PROVIDED FOR PARAGRAPHS 1, 2.A, 2.F AND 2.G OF REF A: TYPE RPTD PLND DATE MOORG MOORG WIR DATE SHIPS DEPTH INSTD DVHLD COND OVHL NO. CLASS (FT) FAIR 6/88 AS-19 951 12/59 6/82 AA 130 GOOD AFS-7 4/59 1/86 701 8 125 1/81 702 6/57 2/82 GOOD 2/85 AFDL-21 A 150 GOOD 703 В 140 6/57 2/82 2/87 POOR 704 Ε 125 10/69 1973 4/84 3/87 501 8 160 7/57 3/82 GOOD 25W 4/53 2/81 GOOD 2/86 22 CAPE В 36 CLASS 25E 36 4/53 2/81 **G000** 2/86 YTB 8 26E 32 9/53 3/82 GOOD 3/87 YTB B 26W 32 9/53 3/82 GOOD 3/87 SWOB 8 27E 37 9/53 4/82 GOOD 4/87 8 27W 32 9/53 4/82 GOOD 4/87 30 BALSAM B CLASS 28E 8 36 9/53 9/82 GOOD 9/87 YFN, YC 28W В 9/53 9/82 GOOD 9/87 YPD 36 8/82 22 8 70 9/53 GOOD 8/87 YON **G000** 8/87 22/23 В 58 9/53 8/82 12/13 D 105 7/82 GOOD 7/87 13 Đ 97 7/82 GOOD 7/87

DLVR: CHESNAVFACENGCOM WASHINGTON DC(9) ... ACT

RTD:000-000/CDPIES:0009

649098/112 1 DF 2 M1 0270 112/10:04Z 220001Z APR 83 CSN:RXDY00271 PWC GUAM

14	0	97	10/53	6/82	GOOD	6/87	YC
15/16	D	97	10/53	9/82	GOOD	9/87	YTB
17	ð	69	9/53	5/82	GOOD	5/87	YON
NOTE:	BUDYS	ARE NOT	INSPECTED	AFTER	OVERHAUL		

- 2. FOR PARA 2.E: THERE IS NO ANTICIPATED MOURING USAGE DURING THE INSPECTION PERIOD IN JUNE 1983, UNLESS TYPHUON PREPARATIONS ARE NEEDED.
- 3. FOR PARA 2.H: CATHODIC PROTECTION IS PROVIDED ONLY FOR MOORING 27W AND CONSISTS OF ZINC LINK ANODES.
- 4. INFO REQUIRED BY PARAGRAPHS 2.8, 2.C AND 2.D TO BE MAILED 25 APRIL 1983.
  BT

649098/112 CSN:RXOY00271 2 OF 2 M1 0270 112/10:04Z

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R 132054Z APR 83

FM CHESNAVFACENGCOM MASHINGTON DC

TO PWC GUAM

INFO COMNAVFACENGOOM ALEXANDRIA VA COMCBPAC PEARL HARBOR HI COM THREE ONE NOR PORT HUENEME CA PACNAVFACENGEOM PEARL HARBOR HI COM THREE ZERO NER GUAM UCT TWO

BT UNCLAS //N11000//

SUBJ: FLEET MOORING INSPECTIONS

- 1. AS PART OF THE COMNAVFACENGEOM FLEET MOORING MAINTENANCE (FMM) PROGRAM, CHESNAVFACENGEOM, WITH DIVER SUPPORT FROM UCT TWO, PLANS TO CONDUCT AN UNDERWATER INSPECTION OF THE 20 MOORINGS OPERATED AND MAINTAINED BY PWC GUAM DURING JUNE 1983. AVAILABLE INFORMATION INDICATES 3 CLASS A MOORINGS IN 125-150 FEET OF WATER, 10 CLASS B MOORINGS IN 32-160 FEET OF. WATER AND 7 CLASS D MOORINGS IN 32-105 FEET OF WATER. INSPECTION WILL RESULT IN SPECIFIC CONDITION ANALYSES AND RECOMMENDATIONS BY MODRING AND WILL ENHANCE THE PROGRAMMING OF FUNDS FOR FLEET MOORING MATERIAL SUPPORT.
- 2. THE FLEET MOORING INSPECTION TEAM WILL CONSIST OF A CHESDIV ENGINEER-IN-CHARGE (EIC) AND A DET FROM UCT TWO. IN ORDER TO PREPARE A DETAILED INSPECTION PLAN, THE FOLLOWING INFORMATION IS REQUIRED PER MOURING:
- A. MAINTENANCE HISTORY WHEN INSTALLED, WHEN INSPECTED, WHEN OVERHAULED, LAST REPORTED CONDITION, ETC.
- B. COPIES OF AVAILIABLE MODRING DESIGN CALCULATIONS AND DRAWINGS.
  - C. COPIES OF "AS-BUILT" MATERIALS LIST.
- D. FACILITY MAP SHOWING LOCATION OF ALL MOORINGS WITH SPECIFIC LOCATIONS FOR THOSE CURRENTLY IN USE.
- E. ANTICIPATED MOOHING USAGE DURING THE INSPECTION PERIOD TYPES OF SHIPS.
- F. PLANNED REPAIRS AND OVERHAULS PARTICULARLY THOSE BEFORE THIS INSPECTION.
  - G. TYPES OR CLASSES OF SHIPS USING MOORING.
  - H. WHETHER CATHODIC PRUTECTION SYSTEMS ARE INSTALLED AND TYPE

DLVR: CHESNAVFACENGCOM WASHINGTON DC(9)...URIG

RTD:007.-000/CUPIES:0009

593518/103 1 OF 2 M1 0468 103/23:42Z 132054Z APR 83 CSN:RXOY70509 CHESNAVFACENGCOM WASHINGTON DC

OF MATERIALS UTILIZED.

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- 3. REQUEST PAC, GUAM MAIL THE ABOVE INFO AS SOON AS POSSIBLE TO CHESNAVFACENGEOM (CODE FPO-1C7), BLDG. 212, WASHINGTON NAVY YARD, WASHINGTON, D. C. 20374.
- 4. ADDITIONALLY, REQUEST PWC, GUAM REPLY BY MESSAGE WITH THE ABOVE INFORMATION EXCEPT FOR DRAWINGS AND MAPS BY 21 APRIL 1983. REGRET LATENESS OF THIS REQUEST. PWC EFFORT TO PREPARD THIS INFO WILL BE GREATLY APPRECIATED AND WILL SIGNIFICANTLY ENHANCE THE ACCURATE DOCUMENTATION OF CURRENT MOURING CONDITIONS AS WELL AS THE PROCUREMENT OF NEW FLEET MOORING MATERIALS.
- 5. CHESNAVFACENGCOM POINT OF CONTACT IS MR. JAMES MCLAUGHLIN AT AUTOVON 288-3881 OR (202) 433-3881.
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593518/103 CSN:RXOY00509 2 OF 2 M1 0468 103/23:42Z 132054Z APR 83 CHESNAVFACENGCUM WASHINGTON DC

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TO C' CHPAC PEAKL MARBOR HI

INFU CHISAVMAT WASHINGTON UC CUMIA, AIRSYSCUM WASHINGTON DC CUT MAVEACEMECUM ALEXANDRIA VA CUMMANTELCOM MASHINGTON DC . CUMNAVSURFRAC SAN DIEGO CA CUMMAVAIRPAC SAM DIEGU CA CG FMFPAC CUMUCEANSYSPAC PEARL HARBUR HI CUTHAVMARIAHAS GUAM CUMPACMISTESTEEN PT MUGU CA WESTHAVFACENGEON SAN BRUNG CA DICC MIDPAC PEAKL HARRON HI OICC GUAT OICC DIEGO GARCIA HOUSTON TX P.C GUSA PEC YUKUSUKA JA PHC SAM FRANCISCO CA CHY THREE ZERO UCK GUAM TAVEAL LENTERVILLE BEACH CA AFISTA SFAL BEACH CA WAYSHIPREPEAC SUBIC HAY RP. THE AISURI JA TYSHIPYD PUGET SCHOOL "A .SC SA' DIEGO CA THIREFFAC HANGOH AA 1.51 RUA-4 MAVSHPPFAC DIEGO GARCIA NAVSTA LONG REACH CA MSC PEARL HARBOK HI MAVSHIPYD MAPE ISLAND CA PACHISRAUFAC HALANEA HARKING SANDS HI

COMNAVSEASYSCOM WASHINGTON DC COMNAVELEXSYSCOM WASHINGTON DC CHR ARLINGTON VA COMNAVLOGPAC PEARL HARBOR HI COMSUBPAC PEARL HARBOR HI COMTHIRDFLT COMMARCORBASESPAC CAMP H M SMITH HI COMNAVFORJAPAN YOKUSUKA JA COMUSNAVPHIL SUBIC BAY RP PACNAVFACENGOOM PEARL HARBOR HI CHESNAVFACENGCOM WASHINGTON DC DICC SUWESTPAC MANILA RP DICC FAR EAST YOKOSUKA JA PWC PEARL HARRUR HI PWC SUBIC BAY RP PWC SAN DIEGU CA COM THREE ONE NOR PORT HUENEME CA UCT TWO HAVOCEANSYSCEN SAN DIEGO CA NSD SUBIC BAY RP MCAS INAKUNI JA NAVUSEAMARENGSTA KEYPORT WA WAVMAG LUALUALEI HI SUBASE BANGOR WA NAVPHIBASE CORONADO SAN DIEGO CA NAVSHIPREPFAC GUAM NAVSTA SAN DIEGO CA NAVSHIPYD PEARL HARBOR HI SUBASE PEARL HARBOR HI

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SUBJ: UCT THU FYES EMPLOYMENT TASKING

PLVM: CHESHAVFACENGOU! KASHINGTON UC(9)...IMFO

RTD:000-000/COPIES:0009

114776/235 1 UF 3 M1 0308 235/23:21Z 210331Z AUG 82 C5M:Rx0100304 CINCPACELT PEARL HARBOR HI

- A. CINCPACELT PEARL HARBOR HI 260654Z JUN 82
- 1. REF A REQUESTED NOMINATIONS OF PROJECTS FOR UCT TWO ACCOM-PLISHMENT FY83-85. FROM THE RESPONSES TO REF A THE FOLLOWING PROJECTS ARE TASKED FOR ACCOMPLISHMENT IN FY83:
  - A. CENTERVILLE BEACH (CLASSIFIED)
  - B. ARCTIC WEST (CLASSIFIED).
  - C. BARKING SANDS, HI, CABLE LANDING AND REPAIRS
  - D. WPNSTA SEAL BEACH, DEMOLISH ANAHEIM BAY BRIDGE
  - E. NSD SUBIC, PILE REPAIR POL PIER
  - F. NSD SUBIC, PILE REPAIR MARINE TERMINAL PIER PHASE I (REPAIR ALL SEVERE AND MAJOR DAMAGE)
  - G. NAVSHIPREPFAC SUBIC, INSPECT ALAVA WHARF
  - H. FLEET MUORING INSPECTION PACIFIC DATA BASE (PEARL HARBOR HI, GUAM, YOKOSUKA, INAKUNI, SASEBO, INDIAN ISLAND WA, BREMERTON WA)
  - I. NAVMAG LUALUALEI, INSPECT AMMO PIERS W1-5
  - J. UNDERWATER INSPECTION PROGRAM (NSC SAN DIEGO)
  - K. SUBASE, BANGOR WA, UNDERWATER INSPECTION
  - L. TRIREFFAC BANGOR WA, UNDERWATER MSF RANGE REPAIR
  - M. DEGAUSSING RANGE SURVEY, SAN FRANCISCO CA
  - N. NAVPHIBASE CORONADO SAN DIEGO CA, PIER INSPECTIONS
- 2. THE FOLLOWING PROJECTS ARE TASKED AS FILL IN WORK FOR FY83:
  - A. UNDERWATER INSPECTION PROGRAM (NAVSTA PEARL HARBOR)
  - B. NAVUSEAWAKENGSTA KLYPORT WA, INDIAN IS PHASE TWO MODRING
  - C. NSD GUAM, REPAIRS TO SIERRA WHARF GUAM.
    REQUIRES COURDINATION WITH ON SITE NMCB FOR ACCOMPLISHMENT.

THE FOLLOWING PROJECTS ARE TENTATIVELY TASKED FOR ACCOMPLISHMENT AS INDICATED:

- A, FY-84
  - (1) ARCTIC WEST (CLASSIFIED)
  - (2) NAVSHIPREPFAC GUAM, REPAIRS TO LIMA WHARF
  - (3) FLEET MOORING INSPECTION PACIFIC DATA BASE 9SUBIC BAY, NSF DIEGO GARCIA, PMC SAN DIEGO, NAVSTA SAN DIEGO, WPNGTA SEAL BEACH, NAVSTA LONG BEACH)
  - (4) NSU SUBIC, WATERFRUNT FACILITIES INSPECTION
  - (5) NSD SUBIC, MONOBUDY FUEL LINE REPAIRS
  - (6) DEGAUSSING RANGE SAN FRANCISCO, RANGE INSTALLATION
  - (7) UNDERWATER INSPECTION PROGRAM CNAVSHIPY PEARL HARBOR, NSC PEARL HARBOR, SUBASE PEARL HARBOR)
  - (8) SCARF REPAIR/INSPECTION
  - (9) BARKING SANDS, UNDERWATER RANGE REPAIRS
  - (10) NSD SUBIC, PILE REPAIR MARINE TERMINAL PIER PHASE Z

114776/235 2 OF 3 M1 0308 235/23:21Z 210331Z AUG 82 RXDY00304 CINCPACELT PEARL HARBOR HI

## (REPAIRS TO MODERATE AND MINOR DAMAGE)

- B. FY-85
  - (1) ARCTIC WEST (CLASSIFIED)
  - (2) BARKING SANDS , UNDERWATER RANGE WORK
  - (3) FLEET MODRING INSPECTION PACIFIC DATA BASE GRARL HARSON HI, GUAM, JAPAN, PUGET SOUND MA)
  - (4) UNDERWATER INSPECTION PROGRAM (MARE ISLAND EA)
  - THIS PROJECT WILL REQUIRE SEPARATE TASKING OF AN RUMCH, CBU, OR OTHER ORGANIZATION AS "PRIME CONTRACTOR" FOR PILE DRIVING AND TOPSIDE YONE, WITH ULT ACCOMPLISHING IN WATER SUPPORT.

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